FORESTRY ABSTRACTS

VOLUME 14. 1953

INDEXES

		PAGE
1.	AUTHORS - - - - - - - -	2
2.	SPECIES - - - - - - - -	22
3.	SUBJECT - - - - - - - -	34
4.	GEOGRAPHICAL - - - - - - -	47

The reference number refers to the serial number of the abstract, which is given at the *head* of the title.

Reference numbers with "p." prefixed refer to page numbers.

Numbers in **bold type** in the Species, Subject, and Geographical Indexes refer to matter in Sections 3, 7, and 8, and thus form an index to the separate issue of *Forest Products and Utilization Abstracts*.

The Editor would be glad to have any errors brought to his notice

AUTHORS INDEX

Abetz, K. 1432
Abolj, I. P. 1262
Abrarov, I. Š., and Osipov, M. E. 1265
Abutkov, B. V. 2309
Acatay, A. 3533
Acatay, G. 880
Acosta Solis, M. 42, 958, 2921
Acree, F. Jr. 3549
Adam, J. G. 1810
Adam-Gironne, J. *see* Guérin, H.
Adamczewski, S. 483
Adamo, O. A. D' 1457
Adams, A. J. S. 281
Adams, E. H. *see* Hearmon, R. F. S.
Adler, E., and Lindgren, B. O. 1516
Adrian, S. *see* Egund, K. F.
Adrien-Robert, Fr. 3559
Afanasijev, D. 309, 310, 2218
Agostini, R. 3342
Agueros, G. 3843
Ahlgren, C. E. 1847
Ahmad, Y. S. 1101
Ahmed, Q. A. 104
Ahola, V. K. 268, 271
Aichinger, E. 2038, 2047–53
Aitken, J. D., and Hall, N. 560
Akai, S., and Shishiyama, J. 2818
Akebrand, V. 3285
Åkerhielm, L. 1099
Akindinov, M. S. *see* Vakin, A. T.
Albertson, F. W. 317
Albaum, H. 61
Aldous, S. E. 2428
Aldrich, K. F. *see* Waterman, A. M.
Aldrich, R. C. 2548
Alenius, N. R. 3813
Alexander, J. L. 1415
Allard and Perrot 306
Allegri, E. 4049, 4050
Allen, J. C. 2207
Allen, J. W. 744
Allen, O. N. *see* Gregory, K. F.
Allen, R. M. 289
— *see* Maki, T. E.
Allison, F. E., and Anderson, M. S. 1619
Allison, J. H. 328
— *see* Spurr, S. H.
Allman, S. L. 791
Allouard, P. 936
Allsop, F. 2019
— *see* Rodger, A.
Almberger, P., and Nygren, K.-G. 3427
Almeida, D. Guilherme de 3688
Amai, and Tripet, R. 3873
Ames, R. W. 2418
Ammon, W. 2090
Amos, G. L. 2651
—, and Tack, G. W. 2824
— *see* Stewart, C. M.
Amshoff, G. J. H. 115
Anchierri and Grivaz 1353
Anciaux, F. 2777
Anderson, A. 3223
Anderson, A. B. 3403, 3953
—, and Runckel, W. J. 2874, 3947
— *see* Ballou, C. E.
Anderson, C. H. 2742
Anderson, E., and Harris, L. 1782
—, and Ledbetter, H. D. 4004
— *see* Pigman, W.
Anderson, G. A. 2084
Anderson, H. 2892
Anderson, I. V. 2556
Anderson, L. D., and Tuft, T. O. 476
Anderson, M. L. 881, 3642
— *see* Haddington, 6th Earl of
— *see* Knuchel, H.
Anderson, M. S. *see* Allison, F. E.
Anderson, R. L. 1321
—, and Kaufert, F. H. 2374
Andersson, E. 1685
—, Gustafson, Å., and Johnsson, H. 1120
—, and Jansson, B. O. 1163
Andersson, S.-O. 530, 1200
Ando, A. 1931, 3303
Andreánszky, G. 1045
Andrew, F. W. 1002
Andrews, G. W., and Bell, G. E. 3777
Andrews, L. R. 370
Andrievskiĭ, A. I. 2675
Anet, F. A. L., Gilham, P. T., Gow, P., Hughes, G. K., and Ritchie, E. 1762
Angus, T. A. 1910
Anić, M. *see* Petračić, A.
Aničkova, P. G. 2482
Annell, K.-A. 925
Anstee, J. R., Arthur, H. R., Beckwith, A. L., Dougall, D. K., Jefferies, P. R., Michael, M., Watkins, J. C., and White, D. E. 981
Ant-Wuorinen, O. 1609
Ant-Wuorinen, O. V. A. 852
Antić, M., and Bunuševac, T. 2064
— *see* Bunuševac, T.
Antipov-Karataev, I. N., and Kraevoĭ, S. Ja. 2248
Antoine, R. 2633
Antoniotti, G. B. 3624
Aoshima, K. 2384
—, and Kobayashi, T. 2805
Apenitis, A., Erdtman, H., and Leopold, B. 2639
Aptekman, I. B. 2842
Arbogast, C. *see* Stoeckeler, J. H.
Ardenne, M., Hughes, E. L., and Morrison, L. M. 3589
Arend, J. L. 365
—, and Coulter, L. L. 1208
—, and Gysel, L. W. 245
Arènes, J. 3122
Areses Vidal, R. 1177, 1222, 2034
Archangeljskiĭ, V. D. 2696
Arief, O. S. M. 2246
Arisz, W. H. 61
Arlidge, J. W. C. *see* Krajina, V.
Armstrong, G. M. *see* Morgan, L. W.
Arnborg, T. 1888, 2140
Arnold, J. F. 2252
Arnold, W. 687
Arnst, A. 2275
Arnštein, G. E. 3443
Aro, P. 375, 2295
Arthur, H. R. *see* Anstee, J. R.
Arthur, J. C., Jr. *see* Hogan, J. T.
Asahi, M. 1887
Aschner, E., and Kritschman, M. 3810
Ashton, L. A. *see* Lawson, D. I.
Asiddao, F. 2100
Aso, K. *see* Watanabe, H.
Asplund, G. 595
Assmann, E. 3359
Asunmaa, S., and Lange, P. W. 2644, 3751–2
Attenberger, J. 226
Aubert, C. G. 253
Aubert, G. 317
— *see* Oudin, A.
Aubréville, A. 210, 1091, 1475
Auer, C. *see* Zehnder, J.
Augier, P. W. 905
Aulin-Erdtman, G. 1519, 3741
Aung Din, U. 1102
Avnimelech, M. 2205
Ayliffe, R. S. 1105
Ayroud, A. M. *see* Traynard, P.

Babé Concer, J. M. 1830
Babogredac, D. 346
Babos, I. 3252
Backman, O., and Winnlert, E. 2276
Bäckström, H., and Welander, E. 3637
Bacon, D. W. G. 1193
Bacon, L. R., and Conklin, D. B. 2807
Badhwar, R. L. *see* Edwards, M. V.
Badré, L. 565, 4015
Baechler, R. H. *see* Blew, J. O.
Bagchee, K. 1309, 2377, 2393
Bagnaresi, U. 3258
Bailey, I. W., and Smith, A. C. 1994
Baird, A. B. 2457
Baker, D. R. 1598
Baker, F. S. 2531
Baker, J. R. *see* Dunn, S.
Baker, K. F. *see* Zentmyer, G. A.
Baker, M. W., Beil, F. F., Curtis, C. F. II, and Patton, E. A. 849
Baker, W. J. 2581
Bakke, A. 1344
Bakshi, B. K. 1962, 2822
Balasse, E. J. *see* Homes, J.
Balch, R. E. 1356, 2457
Baldacci, E., Ciferri, R., Orsenigo, M., and Scaramuzzi, G. 452
Ball, C. D. *see* Grigsby, B. H.
Ballou, C. E., and Anderson, A. B. 3768
Balogh, J. *see* Dudich, E.
Banan, G. A. 257
Bandurski, R. S. 61
Banerji, M. L. 2002
Bangsberg, R. C. 3463
Banks, W. G., and Ostrander, M. D. 2357
Bannan, M. W. 3697
Bard, G. E. 191
Bardyšev, I. I. 1770
—, Pirjatinskiĭ, A., Bardyševa, K., and Černjaeva, O. 1771
Bardyševa, K. *see* Bardyšev, I. I.

Barick, F. B. 55
Barkas, W. W. 3719
Barnard, R. C. 339, 2125, 3262, 3379
— *see* Walton, A. B.
Barnett, H. L. *see* True, R. P.
Barrier, H. 1617
Barrons, K. C. *see* Lynn, G. E.
Bartels, H. 2024
Barstch, J., and Bartsch, M. 2055
Bartsch, M. *see* Bartsch, J.
Baruch, H. K. *see* Bhattacharyya, B.
Basham, J. T., Mook, P. V., and Davidson, A. G. 3478
Basilewsky, P. 969
Bateson, R. G. 1675
Batra, P. G. *see* Puntambekar, S. V.
Bauer, F. 3356, 3615
Bauger, E. 2517
Bauman, M. 2161
Baumer, M. 1500, 3700
Baumgartner, A. 1869
Bavendamm, W., and Bellmann, H. 1632, 3849, 3850
Bawden, F. C. 61
Baxter, D. V. 421, 1654
Bayfield, R. 1780
Bazukis, E. V. *see* Hansen, H. L.
Beadle, N. C. W., and Costin, A. B. 3197
Beal, J. A., Haliburton, W., and Knight, F. B. 472
Beall, H. W. 1287, 3653
Beard, J. S. 1199, 2219, 3220, 3354
Beatty, R. *see* Fertig, S. N.
Beatty, R. H. 407
Becavin, H. 3345
Becker, G. 2451
— *see* Theden, G.
Becker, M. *see* Klauditz, W.
Becking, J. H. 1093, 1453, 2453, 3647
Beckum, W. C. van, and Cook, H. L. 2690
Beckwith, A. L. *see* Anstee, J. R.
Bedell, G. H. D., and MacLean, D. W. 2528
Bedell, J. H., Norton, N. A., and Nearn, W. T. 683
Bednall, B. H. 1804, 2712
Beebe, C. W., Luvisi, F. P., and Happich, M. L. 3975
Beély, M. 1264
Behr, E., Kuhn, E., and Kempter-Behr, M. 3948
Behr, E. A. 2821
— *see* Rogers, R. T.
Beil, F. F. *see* Baker, M. W.
Bein, H. J. *see* Müller, J. M.
Beketov, S. P. *see* Cehanovskiĭ, A. I.
Beljanina, G. G. 2664
Belkin, M. *see* Hartwell, J. L.
Bell, G. E. 741
— *see* Andrews, G. W.
Bell, K. E. 1747
Bellmann, H., and Francke-Grossmann, H. 3874
— *see* Bavendamm, W.
Bellot Rodriguez, F. 1056
Beltman, B. J. 3631
Beltram, V. 364, 2923
Belyea, R. M. 3537
Bender, F. *see* King, F. W.
Benjamin, D. M. 490
Bennett, A. L. 1207
Bennett, E. C., and Pardee, A. M. 3967
Bennett, F. A. 3608
Bennett, H. D. 2718
Bennett, R. G. 2761
Benny, J. C. 816
Benson, D. A. *see* Sweetman, H. L.
Benson, R. B. 1378
Bentley, H. R. *see* Martin, W. F.
Bentz, F. 2300
Berard, E. V. *see* Wilson, H. L.
Berck, B., and Smallman, B. N. 3903
Berducou, J. 1322
Bereznoĭ, T. 1268
Bergey, E. E. 3799
Bergman, F. *see* Sirén, G.
Berjaoui, A. 2001
Berkel, A. 880
—, and Toker, R. 1677
Berling, K. *see* Klauditz, W.
Bernardini, F. 1225
Berry, D. *see* Brockman, C. F.
— *see* Kallander, R. M.
Beršadskiĭ, A. L. 2671, 2672, 3780
Bershadskii, A. L. *see* Beršadskiĭ, A. L.
Berthon, P. 1474
Berthon, R.; Moreau, C., and Moreau, M.; Millischer, H. 3687
Bescher, R. H. 2802
Bethel, J. S. 2728
Bever, D. N. 456, 1195, 2190, 2215
— *see* Woods, J. B.
Beveridge, A. E. 3205
Bharucha, F. R. 196
Bhat, R. V. 1700
—, and Jaspal, N. S. 2861
—, and Karnik, M. G. 829
—, and Roy, D. P. 2860
—, and Singh, M. M. 828
—, and Virmani, K. C. 830, 3935
Bhattacharya, A. 2899
Bhattacharyya, B., Datta, A., and Baruch, H. K. 2882
Bhide, B. V. *see* Ingle, T. R.
Bhushan, B., and Gulati, K. C. 2908
Bianchi, **A. T.** J., 2655
Bick, I. R. C., Doebel, K., Taylor, W. I., and Todd, A. R. 3984
—, Taylor, W. I., and Todd, A. R. 3985
Bickerstaff, A. 1089, 3386
Bier, M. *see* Schubert, W. J.
Biliotti, E. 2474, 3018
Bingham, R. T., Squillace, A. E., and Duffield, J. W. 3053
Biraghi, A. 4049
Birch, A. J. 3998
Birch, L. C., and Clark, D. P. 2999
Birch, T. T. C. 1839
Bird, F. T. 519
Birjukov, V. A. 803
Birkeland, Ø. *see* Granum, H.
Bishop, C. J. *see* MacDonald, R. E.
Bisset, I. J. W., Dadswell, H. E., and Wardrop, A. B. 628
— *see* Kelsey, K. E.
Bistrup, C. 556
Bitterlich, W. 1394, 2509
Bjalyĭ, A. M. 350
Bjerke, S. 1097
Björckebaum, R., and Örtengren, T. 1435
Black, J. M. 1974
Blagbrough, H. P. 478
— *see* Mitchell, R. T.
Blair, B. O., and Fuller, W. H. 410
Blais, J. R. 3899
Blakey, G. G. 2757
Blank, S. de 2259
Blass, H. 2258
Bleiweis, S. 495
Bletchley, J. D. 1912
Blew, J. O., Richards, C. A., and Baechler, R. H. 751
Blieck, W. *see* David, R.
Bloch, R. 3040
Blomgren, Y. 2187
Bloomfield, C. 943, 2985, 2986
Blumann, A., Michael, M., and White, D. E. 3997
Blume, D. 1456
Blumenstein, R. R. *see* McKean, H. B.
Blunck, H. *see* Sorauer, P.
Blyth, A. W. 2516
Bobek, H. 1066
Bobrowicz, E. *see* Janiczek, M.
Bock, E. 692, 3796
Bočko, N. A., and Perfilov, M. A. 2301
Bodwell, W., and Hodgdon, A. R. 2369
Boe, K. N. *see* Polk, R. B.
Boehm, R. M. 1588, 3814
Boer, S. de 297
Bosenberg, H. *see* Freudenberg, K.
Bogdanov, P. L. 2035
Boggess, W. R., and McMillan, F. W. 3367–8
Bokučava, M. A. *see* Sočava, M. A.
Boldt, W., and Hendrickson, G. O. 56
Bollard, E. G. 3036
Bollerslev, C. *see* Stordalen, K. N.
Bolós, A. de and Bolós, O. de
Bolós, O. de *see* Bolós, A. de
Boncompagni, T. *see* Orsenigo, M.
Bond, G. 168
Bond, W. E. 2084, 3362
— *see* Duerr, W. A.
Bonutto, A. L. 2873
Borchers 2116
Borgo Billa, G. 1463
Borisenko, T. T. 3326
— *see* Ščepotjev, F. L.
Bormann, F. H. 3180
Borner, J. 61
Borowski, M. 3583
Børset, O. 3646
Bose, S. 1757
— *see* Chatterjee, A.
Bosq, J. M. 964
Bosshard, H. H. 1494
Botelho, E. A. 1639
Bottenburg, M. van 1789
Bottomley, W. *see* Hills, K. L.
Bouček, B. 2163
Bouchet, C. 4030
Boudon, S. 3037
Boudy, P. 1857, 2928
Bourchier, R. J. 3471, 3494
Bourdillon, A. 3889
Bourgenot, L. 3641
Boutique, R. *see* Gilbert, G.
Bouvarel, P. 3051
Bowling, P. J. *see* Unwin, P. T.
Boyce, J. S., Jr. 427–8, 1314
— *see* Hepting, G. H.
— *see* Toole, E. R.

Boyd, H. 216
Boyd, R. J. 243
Boyko, H. 317
Bramble, W. C., and Byrnes, W. R. 2255, 3369
—, and Worley, D. P. 412
—, Worley, D. P., and Chisman, H. H. 2234
Bramble, W. C. *see* Stambaugh W. J.
Bramford, S. *see* Notini, G.
Brammanis, L. 515
Brandt, C. W. 2649
Brandts, T. G. 1552
Brasnett, N. V. 1448, 3640
Braun-Blanquet, J. 2056, 3195
Bravo Hollis, H., and Ramírez Cantú, D. 1083
Bray, D. F. 3524
Brecht, W. 816
Bremekamp, C. E. B. 115
Brenan, J. P. M. 140, 1986
Brennan, L. *see* Donnelly, R. P.
Brenner, L. G., Jr. 192
Breny, R., and Straszewska, Z. 2829–30
Bretz, T. W. 997
Breunlin, R. 1033
Brian, A. D. *see* Brian, M. V.
Brian, M. V., and Brian, A. D. 3529
Briegleb, P. A. 541
Brierley, J. K. *see* Harley, J. L.
Brink, G. 3492
—, and Ende, G. v. d. 3493
Brinkman, K. A. 2399
British Artificial Resin Co., Ltd., 3950
British Basket & Besto Co. Ltd., and Piggot, G. D. 676
Brixy, S. 2136
Broadbent, R. *see* Donnelly, R. P.
Brockman, C. F., and Berry, D. 1357
Brodbeck, C. 1229
Broekhuizen, J. S. van *see* Jansen, E. C.
Bröker, W. 3522
Bromberg, A. 879
Bromley, W. S. 808
Brookes, J. D. 792
Brooks, F. T. 2375
Brooks, J. D. 1118
Brooks, J. S. *see* Jones, M. D.
Brooks, R. O. 294
Brower, A. E. 3511
Brown, A. A. 1289
Brown, C. E. 3527
Brown, H. P., Panshin, A. J., and Forsaith, C. C. 600
Brown, J. M. B. 1186, 1829, 3137
—; Zehetmayr, J. W. L.; Macdonald, J. A. B. 1186
Brown, J. W. 1850
Brown, N. C. 1694, 3831
Brown, R. C., 2455, 2457, 2706
Brown, R. T., and Curtis, J. T. 207
Brown, W. E. *see* Nolan, W. J.
Brown, W. F. *see* Harvin, R. L.
Browne, F. G. 213, 1666
Browne, F. L., and Laughnan, D. F. 3801
Browne, J. E. 432
Browning, B. L. *see* Pigman, W.
Bruce, D. S. 1450
Bruce, H. D., Cockrell, R. A., and Cummings, L. J. 603
Bruce, M. B. 1465
Bruce, W. E. 2577
Brüning, H. *see* Egner, K.
Brus, G., and Legendre, P. 1769
Bruyne, A. S. de 3682
Bryan, J. 813
Bryan, M. *see* Cunningham, R. N.
Bublitz, W. 2587, 2981
Buč, T. G. *see* Popcov, A. V.
Buchanan, M. A. *see* Pigman, W.
Bucher, E. 1273
Buchholz, E. 3049
Buckland, D. C. 1330
—, and Marples, E. G. 462
Buckman, R. E., and Schneider, A. E. 242
Buckner, C. H. 2501, 3573
Budke, A. 3306
Buhr, H. 2432
Bukatsch, F. 3034
Bulard, C. 988
Bülow, A. von 1217
Bunce, D. 1691
Bunning, C. R. *see* Stoate, T. N.
Bunuševac, T. 1890, 2063
—, and Antić, M. 2010
— *see* Antić, M.
Bureau, A. *see* Homes, J.
Burgdahl, A. C. *see* Goldblatt, L. A.
Burger, H. 13, 176, 3188, 3806
Burges, A., and Johnston, R. D. 2081
Burgess, P. 1581
Burgos, J. J., Cagliolo, A., and Santos, M. C. 14
Burkart, A. 1049
Burkitt, J. S. *see* Somerville, J. L.
Burnam, T. D. *see* Kenworthy, R.W.
Burnett, T. 518
Burns, P. Y. 402
Burrell, J. P., and Owtram, I. H. 3396
Burroughs, R. D. 2310
Burski, B. 3091
Burton, R. E. 3775
Butcher, J. W., and Eaton, C. B. 1383
—, and Hodson, A. C. 3541
Buzas, A. *see* Ormancey-Potier, A.
Byers, H. R. 1900
Bylterud, A., and Vidme, T. 3313
Byrnäs, I. *see* Helmers, U.
Byrnes, W. R. *see* Bramble, W. C.
Bytinski-Salz, H. 3552

C., D. 2748
C. Z., J. 3462
Čadež, Z. 1727, 2891
Cagliolo, A. *see* Burgos, J. J.
Caguioa, V. 3264
Calembert, J. *see* Noirfalise, A.
Callin, G. 1269
Čalov, N. V., and Glazman, S. S. 1721
Camefort, H. 3043
Cameron, D. I. *see* Hawkins, J.
Cameron, J. W. M. 2435
Campbell, G. S. 2839
Campbell, M. 406
Campbell, W. B. 816
Campbell, W. G., and McDonald, I. R. C. 655, 1526
Camus, A. 3107
Cannon, J. R., Hughes, G. K., Neill, K. G., and Ritchie, E. 1765
—, Hughes, G. K., Price, J. R., and Ritchie, E. 1763
Cantelo, W. W. 3571
Capon, M. 1970
Capuron, R. 3130
Carderera, E. 827
Cardoso, J. G. Alfaro 2586
Carlsson, B., Erdtman, H., Frank, A., and Harvey, W. E. 1533
Carman, R. S. 2133
Carmelich, J. N. F. 1131
Carmichael, A. J. 1139
Caro, S. di *see* Goui, G.
Carolin, V. M. *see* Dowden, P. B.
Carpenter, I. W., Jr. 3461
Carr, D. R. 2788
Carruthers, J. F. S., and Lacey, P. M. C. 1505
Cartwright, K. St. G., and Findlay, W. P. K. 783
Cassady, J. T. 352
Casten, R. *see* Sandermann, W.
Castillo Lussich, C. del 2254
Caughey, R. A. 1714
Cavazza, L. 278
Ceballos, L., and Ortuño, F. 1899
Cecconi, S. *see* Malquori, A.
Cehanovskiĭ, A. I., Beketov, S. P., and Zeljdič, P. N. 3432
Celjniker, Ju. L. *see* Ivanov, L. A.
Čermak, F., and Zenaty, J. G. 1692–3
Čermák, K. 1241, 2433
—, and Hybl, J. 3651
Černaev, P. 1660
Černcov, I. A. *see* Vakin, A. T.
Černjaeva, O. *see* Bardyšev, I. I.
Černý, R., and Polnar, M. 1952
Chai, T. S., and Hansen, H. L. 269
Chakravarty, T. *see* Guha Sircar, S. S.
Chalard, A. du *see* Duchaigne, A.
Chalk, L. 2659
Chambard, P., Jullien, I., and Lasserre, R. 864
Champion, H. G. 1828, 4011
Champlain, A. B. *see* Gipple, O. B.
Chan, F. L., *see* Kurth, E. F.
Chapman, G. W. 2204
Chapman, H. H. 2226
Chapon, S., and David, S. 3970
Chappuis, J.-B. 2924
Chararas, K. 1364, 1372
Charles, E. 859
Chase, C, D., and Gevorkiantz, S. R. 2523
Chase, G. A. *see* Greenhill, W. L.
Chass, R. L., and Feldman, E. S. 1616
Chatterjee, A. 1761
—, and Bose, S. 867
—, and Majumdar, S. G. 866
Chatterjee, P. N. 3576, 3902
Chatterjee, R. S., and Maitra, S. R. 868
Chaturvedi, M. 1445
Chaturvedi, M. D. 963, 1809
—, and Ranganathan, C. R. 1796
Chaudhri, I. I. 3204
Chaudhry, G. R., Sharma, V. N., and Dhar, M. L. 2901
Chavancy, A. 1019
Chesters, C. G. C. 3193
Chevalier, A. 142, 1021, 1127, 3119
Chevalier, Y. *see* Parant, E.
Chiba, O., and Teramoto, T. 3073
Chiba, S. 1945, 2180
—, and Kotani, S. 3319
—, and Watanabe, M., 1947, 3058

Chibber, R. K. *see* Idnani, M. A.
Chinte, F. O. 262, 277
Chisman, H. H. *see* Bramble, W. C.
Chittenden, A. E., Coomber, H. E., and Morton, D. 1703
Chitty, D. H. 972
Chorlton, R. W. 2355
Chowdhury, A. M. 3202
Chowdhury, K. A. 1481, 1540
Christian, C. S., and Perry, R. A. 2045
Christie, J. M. 1201
Christodoulopoulos, A. 1110, 1178
Christy, H. R. 10
Chrzanowski, R. H. 2770
Chudzinski, Z. 2680
Ciampi, C. 182–3
Ciferri, R. 422, 454
— *see* Baldacci, E.
Citovskaja, I. L. 232
Cividini, R., and Prister, M. 3778
—, and Wraber, M. 4041
Clapper, R. B. 450
Clark, D. P. *see* Birch, L. C.
Clark, J. 520, 3563
Clark, M. B. 2544
Clark, W. H. D. 3838
Clarke, L. N. 3827
Clarke, S. H. 2800, 3869
Clarke, W. B. M. 3593
Clausen, V. H., and Kaufert, F. H. 2848
Clauser, F. 1402, 3588
Claveria, J. R. 1987
Clayton, R. A. *see* Mauney, W. S. H.
Clements, R. W. 2266, 3404
Clermont, L. P., and Schwartz, H. 653
Clifford, E. D. 2155
Clifford, N. 720
Coaldrake, J. E. 1088
Cobb, S. S. 2354
Cochran, G. W. *see* Mielke, J. L.
Cochrane, J. A. 1777
Cochrane, J. D. 2733
Cocker, E., and Cocker, W. 3762
Cocker, W. *see* Cocker, E.
Cockrell, R. A. *see* Bruce, H. D.
Codd, L. E. W. 1005
Cohen, A. 3631
Cohen, W. E., and Mackney, A. W. 837
— *see* Watson, A. J.
Coile, T. S. 3606
—, and Schumacher, F. X. 3607
Cointat, M. 2429
Čokl, M. 3402
Coldwell, B. B. *see* Lutwick, L. E.
Cole, R. 3336
Čolić, D. B. 897
Collardet, J. 1247
Colleary, M. J. 3858
Collett, M. H. *see* Drake, G. L.
Collier, F. S. 2925
Collier, R. D. 1271
Collins, A. E. 4025
Collins, D. L. *see* Connola, D. P.
Collins, P. E., and Hansen, H. L. 2249
Collinson, H. A. 3794
Colucci, R., Jr. *see* Sides, R. H.
Combes, P. M. 2575
Comegys, W. R. *see* Cox, R. S.
Condominas, G., and Haudricourt, A. 100
Condon, L. 2957
Conklin, D. B. 770
— *see* Bacon, L. R.
Conn, E. E. 61
Connola, D. P., Yops, C. J., Wilcox, J. A., and Collins, D. L. 3564
Connor, R. M. 2724
Conover, D. F. 3243
Conway, M. J. 3228
Cook, D. B., Smith, R. H., and Stone, E. L. 1035
Cook, H. L. *see* Beckum, W. C. van
Cooke, P. T. 2573
Cooke, W. B. 1965
Coomber, H. E. *see* Chittenden, A. E.
Cooper, K. L. 3931
Cooper, R. W. 239, 3244
—, and Schopmeyer, C. S. 3283
Corkhill, T. 2737
Corliss, J. M. 2463
Corothie, H. *see* Romero, S. A.
Correia, C. A. Paixão 2094
Cosens, R. D. 2238
Cosma, D. 557, 3635
Costa, E. W. B. da *see* Matters, C. N.
Costin, A. B. *see* Beadle, N. C. W.
Coulter, J. K. 1891
Coulter, L. L. 406
— *see* Arend, J. L.
Cowan, R. S. *et al.* 1009
Cox, E. P. 3865
Cox, R. S., and Comegys, W. R. 1313
Cozzo, D. 1496, 2604, 3687
Crabb, G. A., Jr. *see* Smith, J. L.
Craighead, F. C., and Hutchins, L. M. 1277
—, and Morris, C. L. 2396
Cram, W. H. 97
Crandall, H. C. 3933
Crooke, M. 1346, 3569
Crossley, D. I. 27, 2087, 2102, 2106–7
Crossley, T. L. 838
Crow, A. B. 3363
Crow, G. B. 2575
Cruikshank, J. W. 584
Cruttwell, C. R. 3617
Cruz, E. de la 1803
Čufodontis, G. 1992
Čugunov, I. N., and Voroncov, P. S. 1253
Cummings, L. J. *see* Bruce, H. D.
Cummings, W. H. 265, 3366
Cunningham, F. E. 1192
Cunningham, R. N., Bryan, M., and Moessner, K. 3634
Curl, E. A., Stessel, G. J., and Zuckerman, B. M. 3076
Curran, J. R. 3582
Curry, W. T. 1512
Curtin, T. W. *see* Meek, W. L.
Curtis, C. F. II. *see* Baker, M. W.
Curtis, J. D. 336
—, and Wilson, A. K. 3500
Curtis, J. T. *see* Brown, R. T.
Cutten, E. Y. 2228

Dabrowski, A. 2580, 2658
Dadswell, H. E. 835, 2850
— *see* Bisset, I. J. W.
— *see* Wardrop, A. B.
Dahl, A. O. 79
Dahms, W. G. 1643
Daimler, K., and Lorenz, V. 3872
Dalmady, J. 3296
Dale, I. R. 3655
— *see* Eggeling, W. J.
Dalton, L. K. 3793
Dalmatov, Ja. B. 387
Danek, Z. 2297
Danilov, M. D. 642
Dannecker, K. 2091
Dannfelt, M. J. 884
Daragan, L. D., and Piskunov, M. M. 2318
Dargan, E. E. 705
Darpoux, H. 446
Darrow, R. A. 406, 2367
— *see* McCully, W. G.
Dartevelle, E. 3210
Dastur, J. F. 1955
Datta, A., and Datta, D. 990
— *see* Bhattacharyya, B.
Datta, D. *see* Datta, A.
Daubenmire, R. 317,1079
Daviault, L. 3535
David, R. 359, 2262
—, and Blieck, W. 3406
—, and Guérindon, A. 274–5
—, and Masquelier, J. 976
David, S. *see* Chapon, S.
Davidson, A. G. *see* Basham, J. T.
Davidson, R. W., and Lombard, F. F. 2814
Davis, D. H. S. 49
Dawkins, H. C. 539
Day, M. W. 406, 408
— *see* Dils, R. E.
Dayton, W. A. 1972, 3144
Dean, A. R. *see* Turner, N.
Defrance, P., and Marion, J. 3491
Deitschmann, G. H., and Lane, R. D. 2208
— *see* Minckler, L. S.
Delfs, J. 3442
Delgado, E. *see* Romero, S. A.
Delgado, R. F. 162
Delong, W. A. *see* Lutwick, L. E.
DenUyl, D. 3182
Denyer, W. B. G. 434
— *see* Riley, C. G.
DeRice, H. A. *see* Rambo, W. H.
Derscheid, L. A. 406
Désalbres, L. 2909
Desforges, J. 2881
Desmarais, Y. 1016
Despić, A. R. *see* Radosavijević, S. D.
Devois, J.-C. 3207
Dey, A. C. *see* Edwards, M. V.
Dewit, J. *see* Duvigneaud, P.
Dhamaney, C. P. *see* Narayanamurti, D.
Dhande, G. W. *see* Patel, M. K.
Dhar, M. L. *see* Chaudhry, G. R.
— *see* Rastogi, R. P.
Dick, G. M. 672
Dickey, E. E. *see* Wise, L. E.
Dickinson, F. E. 2574
Diehl, H. C. 61
Dietz, A. G. H., and O'Neill, A. J. 2868
Dijkman, M. J. 360
Diker, M. 4010
Dillaha, J. *see* Gage, T. B.
Dillard, E. U. *see* Shepherd, W. O.
Dils, R. E. 406, 3007
—, and Day, M. W. 2538
Dimbleby, G. W. 63, 1038, 2103, 3196
Dimitri, M. J. 3254

Dimpflmeier, R. *see* Rohmeder, M.
Dinither, J. B. M. van 1358
Disescu, R. 2511
Dixon, A. C., and Place, I. C. M. 2029
Dobbs, C. G. 555
Dobromyslov, B. 1252
Doebel, K. *see* Bick, I. R. C.
Dohr, A. W. 2628
Doležal, B. 3230
Dolja, N. I. 3293
Domes, N. 2529, 3398
Dommergues, Y. 1409
Donnelly, R. P., Broadbent, R., and Brennan, L. 742
Doran, W. L. 3316
Dorman, K. W. 82
— *see* Little, E. L., Jr.
Dorsey, C. K. *see* True, R. P.
Dosen, R. C. 406
Doskočil, J., Landa, V., Janda, V., Novak, K., and Skuhravý, V. 2494
Douda, V. 2278
—, and Jindra, J. 3416
Doughty, H. V. 2713
Douglas, D. K. *see* Anstee, J. R.
Dowden, P. B., Jaynes, H. A., and Carolin, V. M. 3534
Downs, L. E. 363
Dowson, W. J. *see* Sabet, K. A.
Doyle, D. V. 3826
Dragone-Testi, G. 299
Drake, C. E. 678
Drake, G. L., Simmons, F. C., Collett, M. H., and Matson, E. E 1233
Drinkwater, M. H. 3626
Drooz, A. T. *see* Jaynes, H. A.
Drow, J. T. *see* Paul, B. H.
Dryselius, E. *see* Richtzenhain, H.
Dubois, L. 2237
Ducay Vela, L. 1423
Duchaigne, A., and Chalard, A. du 3692
Duchaufour, P. 200, 2984, 3135, 3185–6
— *see* Oudin, A.
Ducke, A. 1984
Dudić, M. 2260
Dudich, E., Balogh, J., and Loksa, I. 953
Duerr, W. A., and Bond, W. E. 1825
Duff, C. E. *see* Wardrop, T. N.
Duffield, J. W. 89, 3171
—, and Righter, F. I. 3052
— *see* Bingham, R. T.
— *see* Mirov, N. T.
Dugelay, A. 1750, 1885
Duhovnikov, Ju. 1398
Dumanskiĭ, A. V., and Išlinskiĭ, A. Ju. 3701
Dumaz-Le-Grand, N. 3111
Dumitrescu, N. Şt. 2843
Duncan, D. P. 1051, 1107
Dunn, S., Wolfe, L. P., Jr., Macdonald, W. A., and Baker, J. R. 747
— *see* Macdonald, W. A.
— *see* Wolfe, L. P., Jr.
Duplaquet, L. 2930
Dupré Ceniceros, E. 1816
Durgnat, P. A. 218
Duschek, A. 1443
Duschek, S. 2424
Duvigneaud, P. 3113 3211
—, and Dewit, J. 3121
—, Staquet, J., and Dewit, J. 3690
Dženjuk, E. I. *see* Jarošenko, P. D.
Dziedziniewicz, J. 3286

Eadie, W. R. 458
Eames, A. J. *see* Wilde, M. H.
Eason, W. J. 2729
Eaton, C. B. *see* Butcher, J. W.
Eaton, J. 1794
Eberhard, L. *see* Roudier, A.
Eberhardt, L. 3938
Eberts, H. 1096
Ecchu, K. *see* Inouye, Y.
Echevarría, I. 2858
Echevarría Ballarin, I. 564, 2120
Eckbo, N. B. 2126
Èdeljman, N. M. 505
Edlin, H. L. 6, 354, 2958
Edwards, J. 816
Edwards, M. V. 2170, 3270
—, Badhwar, R. L., and Dey, A. C. 3973
Edwards, R. Y. 1919
Eeckhout, L. E. 1492, 1539, 1655, 3412
Eggeling, M. D. 2942
Eggeling, W. J. 1103
—, and Dale, I. R. 1003
Egner, K., and Brüning, H. 2695
Egund, K. F. 2780, 3786, 3819
—, and Adrian, S. 2720
Ehwald, E. 542
Eidmann, F. E. 2426
Eijk, D. D. v. d. 3631
Eisenzopf, R. 3031
Eisner, H. S. 2803
Eklund, B. 1444, 3357
Eklund, R. 2272, 2662
El Banna, A. I. 3949
Elagin, I. N. 3603
—, Matveeda, A. A., and Zvorykina, K. V. 180
—, and Zvorykina, K. V. 12, 24
Elbir, N. 3136
Elder, W. C. 406
Eliescu, G., and Langoș, G. 2444
Elliott, K. R. 474
Ellison, J. G. 2730
Elmendorf, A. 851, 2877, 3913
Elorrieta Artaza, J., and Martínez Mata, F. 2119
Elsässer, A. 2217
Elton, E. T. G. 1379
—, and Blønkwaardt, H. F. H. 3510
Em, H. 1982
Emberger, L. 317
Embun y Gonzalez-Arnao, J. X. de 2961
Emeljjančikov, A. N. 3910
Emerson, W. J. 3465
Ende, G. v. d. *see* Brink, G.
Endo, K. *see* Shibamoto, T.
Engelbrecht, G. *see* Theden, G.
Engelhardt, N. T. 1280
Engle, L. G., and Smith, N. F. 1202
Englerth, G. H. *see* Scheffer, T. C.
Engstler 2953
Enkvist, T., and Lindberg, J. 2646
Entrican, A. R. 1568
—, Ward, W. C., and Reid, J. S. 635
Erdem, R. 2389, 3551
Erdtman, H., and Misiorny, A. 1536
Erdtman, H. *see* Apenitis, A.
— *see* Carlsson, B.
Erffa, Frhr. von 1840, 1849
Erwin, R. 46
Errico, P. d' 315, 3013
Erteld, W. 2224
Espenas, L. D. 2838
— *see* Loughborough, W. K.
Esseen, G. 3439
Établissements Henri Laurent 3824
Etheridge, D. E. 3075
Etten, R. C. van *see* Mitchell, R. T.
Études et Applications Financières 3951
Evans, J. D. D. 3392
Evans, J. W. 2430
Évrard, F. 127
Ewing, J., Hughes, G. K., Ritchie, E., and Taylor, W. C. 3983

Faegri, K. 30
Fahmy, T. Y. 1948
Fahn, A. 2037
Fåhraeus, G. 72
Falco, M. R. *see* Marini-Bettolo, G. B.
Fanshawe, D. B. 212, 1104
Farber, E. 839, 840
Farooq, M. O., and Varshney, I. P. 4002
— *see* Varshney, I. P.
Farrar, J. L., and Fraser, J. W. 3304
Faulkner, R. 287, 2178
Feldman, E. S. *see* Chass, R. L.
Felföldy, L. J. M. 973
Fenner, R. L. 3467
Fenton, G. R. 2101
Fenton, R. H. 3421
Fergus, C. L. 2398, 3497
— *see* Morris, C. L.
Ferguson, J. H. 1426
Fernandes, C. Taveira 2388
Ferré, Y. de 1050, 3092, 3179
Ferrell, W. K. *see* Hubert, E. E.
Fertig, S. N., Vangeluwe, J., Flagg, C. V., Beatty, R., and Lacko, E. 2365
Fessel, F. 804, 3773, 3918
Festenessi, J. J. I. 1407
Fèvre, M. 1835
Février, R. P. 3654
Fiasson, R. 323
Fice, K., and Vaclav, V. 496
Fickler, H.-H. 841
— *see* Marian, J. E.
Fidel, C. M. 3960
Fieguth, E. 3866
Fielding, J. M. *see* Greenham, C. G.
Figilister, R. 1273
Filimonova, V. D. *see* Pravdin, L. F.
Fillipovič, Z. S. 17
Findlay, W. P. K. 2804
— *see* Cartwright, K. St. G.
Finholt, R. W., Weeks, M., and Hathaway, C. 752
Finn, R. F. 2210
Finnegan, R. J. *see* Stewart, K. E.
Finney, D. J. 2969
Finnhorn, W. F. *see* McKean, H. B.
Firat, F. 880
Fischer, F. 4049
Fischer, G. 2898, 3980
Fischer, R. *see* Pigman, W.
Fisher, C. E., and Young, D. W. 409
Fisher, R. C. 2825
—, and Thompson, G. H. 1665
—, Thompson, G. H., and Webb, W. E. pp. 381–9
Fitzgerald, D. B. *see* Hartwell, J. L.
Flagg, C. V. *see* Fertig, S. N.

Flanders, S. E. 2448
Fleming, H. B. 3265
Flemmich, C. O. 810
Flinn, E. S. 1747
Florin, R. 124, 1011
Fobes, E. W. 673
Foggie, A. 1788
Fontes, F. *see* Silva, A. R. Pinto da
Ford, H. F., and Williamson, M.J. 1192
Ford, J. E. *see* Jones, G. D.
Ford Robertson, F. C. 911, 1837
Forsaith, C. C. *see* Brown, H. P.
Forselius, S. *see* Notini, G.
Forsslund, K.-H. 488
Fortunatov, I. K. 78
Foster, A. T. *see* Foster, R. E.
Foster, D. H. *see* Kurth, E. E.
— *see* Stewart, C. M.
Foster, R. E. 2382
—, and Foster, A. T. 2381, 3481
—, and Ziller, W. G. 431
Fostier, G. 2339
Fourchy, P. 3134, 3247
Fowle, C. D. *see* Scott, D. R. M.
Fox, L., and Russell, P. 883
Frackowiak, H. 1876
Francisco, D. *see* Gattis, J. L.
Francke-Grosmann, H. 511, 2500, 3021
— *see* Bellman,, H.
Franco, J. do Amaral 121
— *see* Vasconcellos, J. de Carvalho e
Frank, A. *see* Carlsson, B.
Fransson, P. 413
Frappa, C. 506
Fraser, D. A., and Mawson, C. A. 3033
Fraser, D. G. 1294
Fraser, J. W. 2092
— *see* Farrar, J. L.
Freeland, R. O. 1930
Freudenberg, K. 656, 1521, 1522, 2637
—, Reznik, H., Boesenberg, M., and Rasenack, D. 657
Frey, W. K. 406
Frick, M. *see* Mésanguy, M.
Friedrich, A. G. 3340, 3661
Fries, R. E. 115
Friesner, R. C., and Jones, J. J. 1054
Fritz, C. W. 772, 1647
Froede, O. *see* Sandermann, W.
Fröhlich, J. 3239
Froiland, S. G. 1017
Fryjordet, T. 3643
Fujibayashi, M., Honda, M., and Tsuji, M. 1240
—, Honda, M., and Yamawaki, S. 1261
Fukuda, S. *see* Shimada, H.
Fukuyama, M., and Kadita, S. 1707
Fukuzumi, T. *see* Iwade, I.
— *see* Shibamoto, T.
Fuller, W. H. *see* Blair, B. O.
Fulton, C. O. 3891
Funabiki, K. *see* Kuruta, S.
Furuse, M. *see* Horioka, K.
Furuya, G. *see* Kishimoto, S.
Fushitani, I. 3008
Fysh, D., and Jones, E. C. 2679

GÄBLER, H. 2472–3
Gabričević, A. 1260
Gabrielson, C. O. 3943
Gage, T. B., Dillaha, J., and Wender, S. H. 60
— *see* Ice, C. H.
Gagnepain, F. 131, 138–9, 146, 3124
Gajić, M. 2062
Galoux, A. 250, 2110–1, 3159, 3214
Ganghofer [ed. Mantel, W.] 2508
Ganssen, R. *see* Mitscherlich, G.
Garcia, C. *see* Wise, L. E.
García Escudero, P. 4036
Gardner, C. A. 611, 1989–90, 1022, 3117
Gardner, J. A. F. 3769
— *see* MacLean, H.
Gardner, J. C. M. 3553
Garfitt, J. E. 2242
Garlick, G. G. 3868
Garnier, B. J. 36
Gasser, R., and Wiesmann, R. 514
Gates, D. M., and Tantraporn, W. 561
Gates, F. C. 945
Gatteschi, P. 3476
Gattis, J. L., and Francisco, D. 2368
Gäumann, E. 1958
Gaussen, H. 120, 3148
Gautheret, R. J. 101, 102
Geelhand, G. 3371
Geiger, R. 1868, 1869
Gentes, F. H. 2703
George, J. *see* Narayanamurti, D.
Georgopulos, A. 311
Gerhard, H. 1187
Germain, R. 1069
Gerry, E. 1485, 3676
Gersdorf, E. 3501
Gesellschaft für Holzveredelung m.b.H. 3867
Gevorkiantz, S. R., and Olsen, L. P. 1413
— *see* Chase, C. D.
Ghent, A. W. 2537
Ghose, A. K. 87
Giaccaglia, A. U. 3959
Gibbs, J. A., and Lane, K. 2533
Gibson, A. J. 3991
Gibson, J. M. 4013
Gibson, W. N. 2113
Giddings, E. L. 2935
Gilbert, G. 173
—, and Boutique, R. 137
Gilbert, N., Hobbs, I. A., and Levine, J. D. 1720
Gilham, P. T. *see* Anet, F. A. L.
Gilles, F. 3706
Gillet, A., and Urlings, J. 1537, 2654, 3963
Gindel, I. 2602
Ginnasi, G. 1183
Giperborejski, B. 2203
Gipple, O. B., and Champlain, A. B. 480
Giri, K. V., Gopalkrishnan, K. S., Radhakrishnan, A. N., and Vaidyanathan, C. S. 982
Gittel, W. *see* Klauditz, W.
Gläser, H. 1115, 1243–4
Glasgow, J. P. 3024
Glassaway, J. E. 406
Glattfelter, C. F. 343
Glaubert, S. 1618
Glazman, S. S. *see* Čalov, N. V.
Gleason, L. S. 406
Głowacki, J. 500
Glue, D. I. 3016
Gobiet, M. 3506
Goldman, R. M. 235
Godněv, E. D. 1042
Godnev, T. N., and Terentjeva, M. V. 1929
Goebel, N. B. *see* Smith, W. R.
Goes, E. da S. Reis 2121
Goetz, J. 179
Goggans, J. F. 544
Goldblatt, L. A., and Burgdahl, A.C. 1726
Golick, A. J., and Maas, J. J. 690
Golinski, K. 1876
Golubinskiĭ, I. I. 85
Gondelles, A. R. *see* Romero, S. A.
Gonet, B. 2535
Gonzalez, R. M. 3974
González Vázquez, E. 1795
Goo, M. 1936, 2026
—, and Negisi, K. 1935
— *see* Nakamura, K.
Gooch, F. S. 2158
Gooch, R. M. *see* Meyer, F. J.
Good, H. M. *see* Thacker, D. G.
Goodall, C. 801
Goor, C. P. van 3277, 3351
Gopalkrishnan, K. S. *see* Giri, K. V.
Gordienko, M. 1901
Gordon, A. G. 1014
Gorham, E. 1881
Gorrie, R. M. 2950
Gorškov, D. S. 2320
Gösswald, K. 3518
Gothe, H. 88, 3240
Goto, R., and Kozai, Y. 2688
— *see* Nodzu, R.
Goto, T., and Kadita, S. 2686, 2798
Gouget, P. 1194
Goui, G., and Caro, S. di 3474
Gourvitch, A. 2575
Gow, P. *see* Anet, F. A. L.
Gowda, D. R. *see* Ramaswamy, M. N.
Gracie, W. M. 460
Graf, O. 3726
Graham, D. P. *see* Wright, E.
Graham, P. 697
Graham, P. H. 807, 1561, 2694, 2699
Gran, G. 3753
Granberg, J. H. 3450
Grandcourt, O. de 4035
Grano, C. X. 2236, 3382
Grant, D. F. 789
Grant, J. 2003
Grant, W. 1151
Granum, H. 2857
—, and Birkeland, Ø. 722
Grapp, L. O. 3596
Grasso, V. 439, 2342
Gravatt, G. F. 451
— *see* Miller, P. R.
Graves, A. H. 449
Gray, N. E. 1978, 3096
Grebinskaja, M. I. 1943
Greeley, W. B. 4014
Greene, M. T. *see* Marvin, J. W.
Greenham, C. G., Fielding, J. M., Hamilton, C. D., and Nicholson, D. I. 418
Greenhill, W. L., and Chase, G. A. 3828
Greenidge, K. N. H. 2608
— *see* Hawboldt, L. S.
Gregor, F., and Novak, V. 1915
Gregory, K. F., Allen, O. N., Riker, A. J., and Peterson, W. H. 424

Gregson, E. J. 3118
Greguss, P. 2601, 3685
Grehn, J. 995
Greig-Smith, P. 1084
Gremmen, J. 69
Grente, J. 437
Gretschy, G. 3000
Grieve, J. R. W. 816
Griffin, F. J. 43
Griffith, A. L. 538, 1411, 1843
—, and Prasad, J. 1391
Griffith, M. M. 74
Griffith, R. T. *see* Peck, R. E.
Grigsby, B. H. 411
—, and Ball, C. D. 2372
Gripenberg, J. 2647, 3758
Grison, [P.] 2474
Grivaz *see* Anchierri
Grochowski, W. 879
—, and Sułkowski, M. 862
Groenewoud, H. van *see* Whitney, R. D.
Grohn, H. 3748
Grøn, A. H., and Jørgensen, F. 570
Groome, J. G. 3375
Groschke, F. 2491, 3020, 3542
Gross, W. C. *see* Marckworth, G. D.
Groulx, G., and Louis-Marie, Père 3045
Groves, G. R. 355
Grubov, V. I., and Junatov, A. A. 999
Grundner and Schwappach 533
Grundon, M. F. *see* King, F. E.
Grünig, P. *see* Leibundgut, H.
Gruschow, G. F. 403
Gruzdev, V. V. 3025
Gryse, J. J. de 1342
Guenther, E. 1776
Guérin, H., and Adam-Gironne, J. 3957
Guérindon, A. *see* David R.
Guerreiro, M. Gomes 529
Gugalo, I, *see* Ippolitov, K.
Guha Sircar, S. S., and Chakravarty, T. 4007
Guilkey, P. C. 3613
Guillaumin 892
Guillebaud, W. H. 1793
Guilliet 1549
Guinier, P. 2085, 2588, 3229
Gulati, K. C. *see* Bhushan, B.
Gülçar, F. 2979
Gulick, L. H. 887
Gulisašvili, B. G. 2303
Gupta, J. N. S. 2270
Gupta, M. 1044
Gupta, R. S. *see* Krishnaswamy, V. S.
Gupta, S. C. D. 2631
Gupta, V. K. 3411
Gurd, J. M. 763
Guseva, A. R. 878
Gusovius, H. 1334
Gustafsson, Å. *see* Andersson, E.
— *see* Šimák, M.
Gustafsson, C., Ollinmaa, P. J., and Saarnio, J. 3750
Guttenberg, S. 2023
Gysel, L. W. *see* Arend, J. L.

Haber, A. 2497
Hackett, D. P. 2235
Hackman, R. H., and Trikosjus, V. M. 47
Haddington, 6th Earl of 3222
Hadert, H. 1637
Hadlington, P. 1367
Haefeli, R. 1273
Häflinger, E. 2493
Hafner, F. 378
Hägglund, A. 2870
Hägglund, E. 1712
—, and Richtzenhain, H. 1520
Haglund, A. 2889
Hahn, S. 3520
Haine, E. 1359
Hakkarainen, A. E. 2315, 3452
Hale, C. E. 954
Hale, M. E., Jr. 1059
Haliburton, W. *see* Beal, J. A.
Hall, J. W. 618
Hall, M. T. 91, 3065
Hall, N. *see* Aitken, J. D.
Hallerstedt, B. 740
Hamada, M. 1964
Hamada, R., Maku, T., and Kadita, S. 2841
Hamann, K., and Willems, J. 3848
Hamilton, C. C. 479
Hamilton, C. D. *see* Greenham, C. G.
Hammarlund, E. R., Pennington, D. E., and Rising, L. W. 1753
Hammerle, W. C. 924
Hampel, R. 2530
Hanger, M. R. 3802
Hanmamedov, K. M. 2621
Hann, J. H. *see* Woods, J. B., Jr.
Hannibal, L. W. 3632
Hansel, S. 1545
Hansen, G. E. *see* Miller, E. C.
Hansen, H. L. 406
—, and Bazukis, E. V. 2016
— *see* Chai, T. S.
— *see* Collins, P. E.
— *see* Larson, P. R.
Hanson, H. C. 1081, 2079
Hanson, H. S. 1384
Hanssen, L. J. 3834
Happich, M. L. *see* Beebe, C. W.
Harada, H., and Miyazaki, Y. 2611
Harders-Steinhäuser, M. *see* Jayme, G.
Hardy, A. C. 2575
Harkom, J. F. 1625
Harley, J. L., and McCready, C. C. 165, 3161, 3163
—, McCready, C. C., and Brierley, J. K. 3162
Harmsen, L. 3886
Harney, J. E. 53
Harris, E. C. 786, 3896
Harris, J. M. 3618
Harris, L. *see* Anderson, E.
Harris, N. A. 708
Harris, W. V. 764
Harrison-Smith, J. L. 3417
Harrow, K. M. 2781, 2782
Hart, A. C. 377
Hartley, C. *see* Stearns, J. L.
Hartmann, F. 1867, 1875, 2216
Hartwell, J. L., Johnson, J. M., Fitzergerald, D. B., and Belkin, M. 1754, 3981
Harvey, G. M. *see* Lindgren, R. M.
Harvey, L. J. *see* Stewart, C. M.
Harvey, W. E. *see* Carlsson, B.
Harvin, R. L., Nolan, W. J., and Brown, W. F. 1546
Hasegawa, K. 295
Hasegawa, M. 3760
Hašek, J. 3543
Hasel, K. 1826
Hashimoto, Y. *see* Migita, N.
Hata, K. 629, 820, 821, 822, 823, 825
—, and Sogo, M. 824, 826, 3941
Hatano, K. 1142, 2153
Hathaway, C. *see* Finholt, R. W.
Hatheway, W. H. 214
Hatiar, A. 3230, 3390
Hatiya, K. *see* Suzuki, T.
Hattingh, E. R. 2362
Hattori, S., and Matsuda, H. 869
Hatusima, S., and Komaki, M. 1065
Haudricourt, A. *see* Condominas, G.
Hauenstein, H., Hunger, A., and Reichstein, T. 3989
Haufe, H. 3234
Hauff, R. 4017
—, Schlenker, G., and Krauss, G. A. 939
— *see* Moosmayer, V.
Haugberg, M. 2996, 3311
Haugen, A. O. 2371
Hauman, L. 144
Hausendorff, E. 2031
Hausser, K. 1173
Hawboldt, L. S., and Greenidge, K. N. H. 2506
Hawkes, C., 3381
Hawkins, J., and Cameron, D. I. 3329
Hawley, N. R. 3376, 3612
Hayashi, Y. 3085, 3145–6
Haycock, A. H. 681
Haynes, H. F., Nelson, E. R., and Price J. R. 1767
Hayward, C. H. 2661
Heal, J. C. 2749
Hearmon, R.F. S. 3719
—, and Adams, E. H. 1583
Heath, G. R. 2546
Heebink, B. G. 2741
Heermance, E. L. 923
Hefferline, J. E. 3709
Heiberg, H. H. H. 2112
Heikinheimo, O. 1842
Heikurainen, L. 1889
Heimburger, C 1855
Heinisch, O. 96
Heiskanen, V. 3451
Heitmüller, H.-H. 296
Hejtmánek, J. 1036
Helbsing 469
Hellinga, G. 2131
Helmers, U., and Byrnäs, I. 1237
Henderson, E. W. *see* Irvine, J. E.
Henderson, F. Y. 4047
Hendrickson, G. O. *see* Boldt, W.
Hennecke, K. 2118
Hennig, R. 108, 2380
Henrard, P. 788
Henriksen, H. A. 430, 527
Henry, B. W. 1156, 3314
Henry, J. A. *see* Martin, W. F.
Henry, J. E. 3265, 3266
Hepting, G. H. 455
—, Toole, E. R., and Boyce, J. S., Jr. 70, 998
Heqvist, K.-J. 517, 1361
Herbignat, A. 148, 551, 1866, 3094, 4050
Herfeld, H., and Zieger, E 1742
Hergert, H. L., and Kurth, E. F. 3966

Heritage, C. C., and Locke, E. G. 1608
Herlemont, R. 132
Herman, F. R. 3610
Hermansen, N. K. *see* Jørgensen, F.
Heron, R. J. 1916
Herrmann, E. 2337
Herzig, J. 3854
Herzner, R. A. 2809
Heske, F. 880
Hesmer, H. 1117, 2363
Hess, C. L. 662
Hess, E. 962
Hess, Q. F. 400
Hess, R. W. 598, 2725
Hesse, P. R. 3002
Hetrick, L. A. 795
—, and Moses, P. J. 3900
Heuser, E. 2645
Heusser, C. J. 1057
Hewetson, C. E. 156
Hewitt, B. R. *see* Mort, G. W.
Hewitt, E. J. 1923
Heyden, D. 1246, 1333
Hias, G. 1250
Hida, M. 76
Hide, R. H. 1403
Hierholzer, O., and Klauser, O. 1278
—, and Lüdge, W. 1347
Higgins, H. G. 3724
Higuchi, M. *see* Shibamoto, T.
Hildebrand, F. H. 118–9, 1010, 1973, 3082–3
Hilf, H. H. 951, 2230, 2291, 2953
—, and Rodmeder, E. 1122
Hilf, R. B. 2247
Hill, A. F. 1954
Hillis, W. E. 669, 1747, 1786, 3756
—, and Ho, G. 1785
Hills, G. A. 1419
Hills, K. L., Bottomley, W., and Mortimer, P. I. 2903
Hilscher, A. 2298–9
Hinds, H. V. 3265
Hinsvark, O. N. *see* Tukey, H. B.
Hirai, S. 1499, 2797
—, and Ogawara, J. 3795
—, and Shimizu, T. 2732
Hird, D., and Simms, D. L. 3870–1
Hitt, R. G. 81
Hjersman, H. A. *see* Howard, W. E.
Hlava, J. *see* Wacek, A.
Ho, G. *see* Hillis, W. E.
Hobbs, I. A. *see* Gilbert, N.
Hochreutiner, B. P. G. 3114
Hodgdon, A. R. *see* Bodwell, W.
Hodgkins, E. J. 83
Hodson, A. C. *see* Butcher, J. W.
Hoek, M. 1631
Hof, T. 771, 773
Hoffman, P. F. 1320
Hoffman, W. P. 1679
— *see* James, L. M.
Hoffmann, D. 1953
Hofman, J. 1979
Hofmann, G. 1869
Hogan, J. T., and Arthur, J. C., Jr. 1554
Holbrook, R. F. 3548
Holcomb, C. J. *see* Weitzman, S.
Holcombe, R. A. 2852
Holdheide, W., and Huber, B. 622
Hollingsworth, B. C. *see* Reid, W.
Holloway, J. T. 51
Holly, K. 2361
Holmes, C. H. 1838
Holmgren, H. F. 3855, 3863
Holt, V. 2213
Holte, T. 818
Holten, J. 1013
Holubčik, M. 3335
Holzer, W. F. 816, 1697
Home, Sir J. M. 420, 4029
Homes, J., Balasse, E. J., and Bureau, A. 3046
Honda, M. *see* Fujibayashi, M.
Hontoy, J. *see* Istas, J.-R.
Hoogland, R. D. 3104
Hoore, J. d' *see* Leenheer, L. de
Hooven, E. F. 3502
Hoover, M. D. 3004
Höpner, T. 1659
Hopping, G. R. 1352
Hordern, R. H. 671, 2677, 3668
Horgan, E. D. 2775
Horioka, K., and Furuse, M. 715, 2684
—, and Sugano, M. 2685
Horn, A. G. 1471, 4027
Horvat, I. 1063–4
Hosaka, Y. *see* Ito, K.
Hossfeld, R. L. *see* Kaufert, F. H.
Hough, A. F. 1135–6, 3233
Hough, J. S. 3574
Houtzagers, G. 147, 991, 2223
Howard, W. E., and Hjersman, H. A. 1335
Howden, H. F. 971
Hu, S.-Y. 3100
Huarte Mendioca, P. 2752
Huber, B. 61, 1431, 2953
— *see* Holdheide, W.
Huberman, M. A., and Purkayastha, C. 928
Hubert, E. E., and Ferrell, W. K. 1387
Hubert, F. P., McCubbin, W. A., and Wheeler, W. H. 414
Huckenpahler, B. J. 2233
Huddleston, G. B 1627
Hudson, M. S. 1652
Hueck, K. 316, 1034, 2004
Huet, M. 224
Hughes, E. L. *see* Ardenne, M.
Hughes, G. K., Neill, K. G., and Ritchie, E. 1764
— *see* Anet, F. A. L.
— *see* Cannon, J. R.
— *see* Ewing, J.
Hughes, J. F. 1570
Huguet, L. 2866, 4005
Huikari, O. 2994
Hung, L.-P. 332
— *see* Liu, S. H.
Hunger, A. *see* Hauenstein, H.
Hunt, G. M. 2762
Hunter, R. S. 842
Hursh, C. R. 3639
Hussain, S. M. 1317
Hussey, N. W. 1349
Husson, A. M., and Lam, H. J. 3103
Hustich, I. 1072
Hutchins, L. M. *see* Craighead, F. C.
Hutnik, R. J. 130
Hviid, A. 305
Hybl, J. *see* Čermak, K.
Hyde, H. A. 3173
Hyler, J. E. 709–10, 728, 1513, 1572, 2714, 3789
Hyodo, M. 2181–2
—, and Yamawaki, I. 3321
Hyttinen, A. *see* McGovern, J. N.
Hyun, S. 3105

Iablokoff, A. Kh. 2974, 3562
Ice, C. H., Gage, T. B., and Wender, S. H. 59
Ickovič, E. A. 2674
Idnani, M. A., and Chibber, R. K. 3965
Ignatieff, V. 1172
Iizuka, N. 974
Ilch, D. M. 1293
Illies, Z. M. 989, 1939
Iloff, P. M., Jr., and Mirov, N. T. 3993
Ilvessalo, Y. 1404
Imazek, R. 3074
In der Gand, H. R. 1237
Inal, S. 880, 3976
Ingham, G. 1886
Ingle, T. R., and Bhide, B. V. 1783
Ingles, D. L. *see* Kurth, E. E.
Inomata, T. *see* Yonezaka, Y.
Inose, O. 2625
Inose, T. *see* Maruyama, I.
Inoue, K. 2353
Inouye, Y., and Kuroki, Y. 3852
—, and Nishimoto, K. 2763
—, Nishimoto, K., and Ecchu, K. 1638
Ionov, M. I. 2887
Ippolitov, K., and Gugalo, I. 2317
Ireland, W. A. 1563
Irmak, A. 880, 1285
Irvine, J. E., and Henderson, E. W. 3937
Isaac, L. A. *see* Worthington, N. P.
Ishida, S. 1282–3
Ishii, K. *see* Saito, Y.
Ishikawa, H., and Kono, T. 3749
— *see* Toda, R.
Ishizawa, K. *see* Moriyama, I.
Išlinskiĭ, A. Ju. *see* Dumanskiĭ, A. V.
Istas, J.-R., and Hontoy, J. 2859
—, and Raekelboom, E. L. 2636
Ito, H. 2650
Ito, K., and Hoasaka, Y. 3496
—, and Kontani, S. 1312, 2378
—, Shibukawa, K., and Kobayashi, T. 425
Itzerott, H. 2439
Ivanov, Ju. M. 3722
Ivonov, L. A., and Silina, A. A. 67
—, Silina, A. A., Žmur, D. G., and Celjniker, Ju. L. 66
Ivanova, N. E. 246
Ivanović, M. 2179
Iwade, I., Fukuzumi, T., and —Yanagawa, R. 2816
Iwamura, M. 1893

Jackson, L. W. R. 1430
Jacob, M. C. 2211
Jacobi, E. F. 282
Jacobs, M. R. 1041
Jacobson, G. 2263
Jacobson, L. 61
Jacques-Félix, H. 143
Jacquiot, C. 369, 774, 1669, 1957, 3071, 3490, 3894
Jadhave, Y. G. *see* Purushotam, A.
Jager, J., Jr. 3466
Jagendorf, A. 61
Jahn, E. 1339
Jain, J. C. *see* Purushotam, A.

Jakušev, V. V. 1257
James, L. M., Hoffman, W. P., and Payne, M. A. 900
James, N. D. G., 1031, 1829, 3389, 3665
Janda, V. *see* Doskočil, J.
Jane, F. W. 2584
Jänichen, H., Müller, S., Schlenker, G., Sebald, A., *et al.* 4018
Janiczek, M., and Bobrowicz, E. 2622
Janovskiĭ, V. V., and Malevskaja, S. S. 1710
Jansen, E. C., and Broekhuizen, J. S. van 1137
Jansen, J. J. M. 2201
Jansson, B. O. *see* Andersson, E.
Jansson, J. R. 2358
Jaroš, P. 2143
Jarošenko, P. D., and Dženjuk, E. I. 23
Jarreau, F.-R. 1646
Järvinen, A. E. 889
Jaspal, N. S. *see* Bhat, R. V.
Jayme, G., and Harders-Steinhäuser, M. 2613
—, Harders-Steinhäuser, M., and Mohrberg, W. 2851
—, and Wörner, G. 819
Jaynes, H. A., and Drooz, A. T. 2456
— *see* Dowden, P. B.
Jedlovski, D. 204
Jefferies, P. R. *see* Anstee, J. R.
Jeffers, J. N. R. 933
Jemison, G. M. *see* LeBarron, R. K.
Jeník, J. 940
Jenkins, C. E. 1735
Jenkins, J. H. 1606
Jensen, P. 325
Jensen, R. A. *see* Schantz-Hansen, T.
Jensen, W. 2895
—, and Jorri, H. 3934
Jentzsch, H. 3707
Jessen, H. C. 1717
Jevken, M. 3126
Jevtić, M. 1311
Jewson, C. B. 3660
Jindra, J. *see* Douda, V.
Joergensen, C. 3372
Johannes, H. 1315
Johnson, A. *see* Pauley, S. S.
Johnson, C. G. 45
Johnson, E. S. *see* Pittman, H. B., Jr.
Johnson, E. W. 2547
Johnson, F. 1400
Johnson, J. M. *see* Hartwell, J. L.
Johnson, M. A. 3042
Johnsson, H. 256, 1121
— *see* Andersson, E.
Johnston, D. D. 3829
Johnston, D. R. 614, 1491, 2599, 2983, 3684
Johnston, E. J. 32
Johnston, R. D. *see* Burges, A.
Joly, R. 3555, 3570, 3895
Jonas, G.-Z. *see* Sandermann, W.
Jones, E. C. *see* Fysh, D.
Jones, E. W. 2347, 2348
Jones, G. D., and Ford, J. E. 3565
Jones, J. J. 1075
— *see* Friesner, R. C.
Jones, J. K. N., and Wise, L. E. 667, 1528
Jones, M. D., and Brooks, J. S. 1220
Jørgensen, F. 571, 3645
—, and Hermansen, N. K. 572
— *see* Grøn, A. H.
Jørgensen, H. A. 106
Jorri, H. *see* Jensen, W.
Josifović, M. 2387
Joslyn, M. A. 61
Jovanović, S. 1161
Jover, H. 787
Jovet, P. 3112
Jovovic, N. 1818
Juhren, G. *see* Went, F. W.
Juhren, M. C. *see* Went, F. W.
Jullien, I. *see* Chambard, P.
Junack 3352
Junatov, A. A. *see* Grubov, V. I.
Jünger, E. *see* Kisser, J.
Jurd, L. *see* King, F. E.
Jušmanov, T. M. 2702
Juštšuk, E. 675
Juta, E. H. P. 2847
Jüttner, O. 255
Juutinen, P. 2420

Kabe, M. 3539
Kaburagi, Z. 647
Kabzems, A. 3611
Kac, N. Ja. 185
Kachroo, P. 416
Kačinskiĭ, N. A. 318
Kadita, S., Nakato, K., and Yamada, T. 3714
— *see* Fukuyama, M.
— *see* Goto, T.
— *see* Hamada, R.
Kagis, I. 233
Kalandra, A. 1377
—, and Kolubajiv, S. 1382
— *see* Kolubajiv, S.
Kalašnikov, A. F. 319
Kalela, E. K. 169, 188
Kallander, R. M., and Berry, D. 3332
Kalshoven, L. G. E. 1345
Kamiizaka, M. *see* Kato, S.
Kamimura, T. 2083
Kamp, H. J. 1374, 2476
Kanda, T. *see* Migita, N.
Kangas, E. 464
Kano, T. 646
Kapitonov, I. T. 2312
Karavaev, V. I. 2302
Karlberg, S. 3291
Karnik, M. G. *see* Bhat, R. V.
Karpiński, J. J. 497, 2044, 2096
Karschon, R. 2159–60
Karsudjono 2559
Kåsa, J. 229
Kasuya, Y. *see* Takahara, S.
Kaszuba, Z. 1876
Katayama, S. 2550
Kato, R. 986, 3147
Kato, S., and Kamiizaka, M. 2811, 2812
—, and Wada, Y. 3820
Kaufert, F. H., Neetzel, J. R., Hossfeld, R. L., and Rees, L. W. 2779
— *see* Anderson, R. L.
— *see* Clausen, V. H.
Kaufman, C. M., and Posey, H. G. 3178
Kawana, A. *see* Shibamoto, T.
Kayacik, H. 880, 2099
Kean, R. I. 467
— *see* Pracy, L. T.
Keay, R. W. J. 3098
Keen, F. P. 2431
Keever, C. 2043
Kehar, N. D., and Negi, S. S. 3964
Keino, K. 779, 3885
Keith, H. G. 117
Keller, C. O. *see* Potzger, J. E.
Keller, E. L. *see* Simmonds, F. A.
Keller, W. C. *see* Meyer, H. A.
Kelley, R. W., Jr. *see* Sweetman, H. L.
Kelsey, K. E., and Bisset, I. J. W. 2660
Keltikangas, V. 2995
Kempter-Behr, M. *see* Behr. E.
Kenaga, D. L., and Sproull, R. C. 1644
Kenknight, G. 871
Kent, F. L. *see* Smith, W. A.
Kenworthy, R. W., and Burnam, T. D. 3704
Ker, J. W. 1418
Kermode, C. W. D. 1043, 3248
Kerr, T. W., Jr. 475
Kersteter, A. *see* Nearn, W. T.
Kesselhuth 2405
Kettlewell, H. B. D. 3023
Keylwerth, R. 613, 2594, 3729, 3812
Khan, M. A. W. 143
Khan, M. H. 1798
Khan, M.I.-U. R. 3057
Khan, M. S. 1030
Khanna, L. S. 3250
Kiaer, H. T. 1477
Kiefer, H. J., and Kurth, E. F. 3969
Kikuchi, F. *see* Yonezaka, Y.
Kilchermann, H. R. 2294
Killian, C. 317
Kilpinen, L. 384
Kimball, K. E., and Torgeson, O. W. 3915
Kimmey, J. W. 1414
Kimura, Y. 2864
Kinashi, K. 2522
King, E. P. 3815
King, F. E., Grundon, M. F., and Neill, K. G. 3764
—, and Jurd, L. 1532, 3767
—, and King, T. J. 3763
—, King, T. J., and Neill, K. G. 3766
—, King, T. J., and Warwick, A. J. 670
—, and Neill, K. G. 3765
King, F. W., and Bender, F. 848
King, N. L. 2929
King, T. J. *see* King, F. E.
Kinghorn, J. M. 494
Kingsbury, R. M. *see* McGovern, J. N.
— *see* Simmonds, F. A.
Kinloch, D. 1788
Kipling, T. H. 2568
Kirby, C. S. *see* Stewart, K. E.
Kirevičev, V. E. 2334
Kirwald, E. 959, 1162, 1898, 3010
Kiščenko, T. I. 2307
Kishen, J. *see* Rehman, M. A.
Kishimoto, S., Naito, K., Tochizawa, K., Furuya, G., Kono, K., Unrinin, G., and Uchida, K. 3955
Kisser, J., and Jünger, E. 3681
—, and Steininger, A. 1689, 3725, 3907
—, and Wittmann, W. 3696

Kitahara, K. 1719
—, and Mamada, S. 2869
— *see* Saito, Y.
Kitao, K. 2652
Kitazawa, G. 2630
Kitchingman, G. D. 215
Kittredge, J. 545
Kivimaa, E. 3774
Klauditz, W. 845, 847, 3946
—, and Becker, M. 3942
—, and Berling, K. 831
—, and Gittel, W. 844
—, and Ohse, G. 843
—, and Stolley, I. 846
Klauser,O *see* Hierholzer, O.
Klein, M. *see* Ralston, J. M.
Kleinert, T. 3746
Klem, G. G. 1239, 3338
Klemm, K. 816
Klemm, M. 1275
Klement, O. 941
Kloot, N. H. 651, 2614, 3727
Kloot, W. G. van der 1817
Knapp, R., Linskens, H. F., Lieth, H., and Wolf, F. 15
Knežević, M. 706, 2576
Knight, F. B. *see* Beal, J. A.
Knight, F. J. 2776
Knight, R. A. G. 684, 1577
Knodel, H. 3878
Knöpke, W. *see* Magdorf, R.
Knuchel, H. 3638
Kobata, H., *et al* 2990
Kobayashi, T. *see* Aoshima, K.
— *see* Ito, K.
Kobayashi, Y. 619
Kobendza, R. 3090, 3125, 3151, 3305, 3546
Kobuski, C. E. 3129
— *see* Sandwith, N. Y.
Koch, J. 4017
Kodama, T. *see* Shibamoto, T.
Koechlin, J. 865
Koehler, W., and Zdanowicz, Z. 2438
Koelmeyer, K. O. 2976, 3138
Kohara, J. 2656
Köhler, A. 1401
Kohlermann, L. 1047
Køie, M. 161
Koktavy, V. 729
Kolehmainen, V. A. 3505
Koljadin, B. I. *see* Pimštein, A. S.
Kollmann, F. 648–50, 1478, 1682, 3773, 3783, 3911, 3945
— *see* Weck, J.
Kollmann, F. F. P. 1695
Kolobov, V. D. 2670
Kolubajiv, S., and Kalandra, A. 2499
—, and Kudler, J. 3513
— *see* Kalandra, A.
Komaki, M. *see* Hatusima, S.
Konev, G. I. 171
Konias, H. 3230
Konias-Mottl 1198
Konishi, Y., and Yamamoto, T. 2626
Kono, K. *see* Kishimoto, S.
Kono, T. *see* Ishikawa, H.
Kontani, S. *see* Ito, K.
Kools, J. F. 3425
Koroleff, A. 2271
Korstian, C. F. *see* Kramer, P. J.
Korsuň, F. 3585, 3609
Kortz, A. 1921
Koščeev, A. L. 3006
Kosmieja, S. 1876
Kossenakēs, G. 2944
Kostecka-Madalska, O. 3108
Kostermans, A. J. G. H. 135
Köstler, J. N. 1871, 2953
Kotani, S. *see* Chiba, S.
Kotešovec, V. 2166
Kovačević, Ž. 2447, 2464, 2484
Kovrigin, S. A. 2009
Kowalkowski, A. 1876
Kozai, Y. *see* Goto, R.
— *see* Nodzu, R.
Krach, H. 854
Kraevoĭ, S. Ja. *see* Antipov-Karataev, I. N.
Kraffe de Laubarède, L. *see* Mésanguy, M.
Krahl-Urban, J. 94, 225, 575, 1152, 3062
Krajina, V. 1071
—, and Arlidge, J. W. C. 1070
Kraljić, B. 2717
Kramer, P. J. *see* Young, H. E.
Kramer, P. J., Oosting, H. J., and Korstian, C. F. 1052
Kramer, P. R. 2719
Krampe, O., and Rehm, H. J. 2413
Kratzl, K., and Silbernagel, H. 3747
—, and Tschamler, H. 3742
Krauss, G. A 1951, 4017
— *see* Hauff, R.
Krébes, G. 3299
Krečmer, V. 1870, 2340
Kremer, R. W. *see* Morgan, L. S.
Kribs, D. A. 1482
Krishna, S., and Narayanamurti, D. 1623
Krishnaswamy, V. S. 528, 1100, 1329, 1822
—, and Gupta, R. S. 2073
Kriso, K. 29
Kritchman, M. *see* Aschner, E.
Krjukova, L. N. 1158
Krogh, P. M. D. 1566, 1628
Król, S. 1876
Kröner, K., and Pungs, L. 641
Krstić, M. 3289, 3882, 3888
Krueger, M. 4038
Kruel, W. 3550
Krüssmann, G. 3097
Kryczko, M. *see* Perkitny, T.
Krzyzewski, J. 3857
Kubota, S. *see* Shibamoto, T.
Kucera, C. L. 1076
Kudler, J. 1369
— *see* Kolubajiv, S.
Kudrjavcev, K. A. 75
Kuenzel, J. G. 738
Kuhn, E. *see* Behr, E.
Kühne, H. 730
—, and Vodoz, J. 645
Kühnle 1191
Kukachka, B. F. *see* Varossieau, W. W.
Kulkarni, Y. S. *see* Patel, M. K.
Künanz, H. 1792
Kuntz, J. E., and Riker, A. J. 405
Kurata, T. 2917
Kurauti, I. 2069
Kurir, A. 2469, 2471
Kuriyama, A., and Sugiura, G. 3956
— *see* Shibamoto, T.
Kuroki, Y. *see* Inouye, Y.
Kurth, E. E., Foster, D. H., and Ingles, D. L. 2634
Kurth, E. F., and Chan, F. L. 3968
— *see* Kiefer, H. J.
Kuruta, S., and Funabiki, K. 1000
Kurz, H., and Wagner, K. A. 2080, 3168, 3218
Kusaka, M. 1001, 3086
Kuster, A. 2304
Küster, E. 3578
Kuusela, K. 2540
Kuvaldin, B. I. 2322
Kvaerness, R. 3599
Kwinichidze, M. 1876
Kyaw Zan, U. 1029

Labunskiĭ, I. M. 37
Lacaze, J. 3253
Lacey, P. M. C. *see* Carruthers, J. F. S.
Lack, D. 972
Lacko, E. *see* Fertig, S. N.
Ladefoged, K. 1055
Ladell, J. L. 3912
Lähtönen, H. 388
Lam, H. J., and Royen, P. van 3126–7
— *see* Husson, A. M.
Lamb, G. N. 2591
Lambert, L. 394
Lamberton, J. A., and Price, J. R. 3986
Lancaster, P. C. 2231
Landa, V., Novák, K., and Skuhravý, V. 2495
— *see* Doskočil, J.
Lane, K. *see* Gibbs, J. A.
Lane, P. H. 704
Lane, R. D. *see* Deitschmann, G. H.
Lang, A. 61
Lange, P. W. *see* Asunmaa, S.
Langner, W. 1046, 1950, 3055
Langoș, G. *see* Eliescu, G.
Lanquist, K. 1154
Lantz, A. 2186
Lapin, P. I. 3779, 3784
Larsen, C. S. 3054, 3348
Larson, P. R., Loerch, K. A., and Hansen, H. L. 290
Larson, R. W. 2936
Lasserre, R. *see* Chambard, P.
Laughlin, K. 206, 3190
Laughnan, D. F. *see* Browne, F. L.
Laukkanen, V. 3446
Laurent, P. A. 1775
Lavender, D. P. 457
Laviuzza, O. L. 3958
Lavoie, G. 3440
Lawalrée, A. 152
Lawrence, W. H. 48
Lawson, D. I., Webster, C. T., and Ashton, L. A. 639
Lawton, E. J. *see* Saeman, J. F.
Lăzărescu, C. *see* Pașcovschi, S.
Leach, J. G. *see* True, R. P.
Lear, W. L. 2719
LeBarron, R. K. 217
—, and Jemison, G. M. 3226
Le Cointe, P. 116
Ledbetter, H. D. *see* Anderson, E.
Lederer, E. *see* Ormancey-Potier, A.
Lee, C. L. 77
Leenheer, L. de, Hoore, J. d', and Sys, K. 2992
Leenhouts, P. W. 3103
Leeper, G. W. 61
Legendre, P. *see* Brus, G.
Leggat, G. 1216

Legomski, K. 1876
Lehmann, E. 993
Lehoňan, T. *see* Turček, F.
Leibundgut, H. 1095, 2427, 2539, 2982
—, and Grünig, P. 300
Leibzon, Z. I. *see* Terzibašjjan, G. G.
Leicher, S. 1558
Leijonhufvud, A. C. 2293
Leivands, A. 1733
Lekander, B. 509, 510
Lekander, J. 3413
Lentzen, M. 1175
Lentzen, M. 1175
Léonard, J. 136, 1985, 3209
Leopold, B. 1524, 2640–3
— *see* Apenitis, A.
Leppik, E. 2408
Leroy, J.-F. 3132
Les Consommateurs de Pétrole, S. A. 2888
Lesage 222
Leskin, D. F., and Matveev, G. K. 2316
Leslie, A. P. 1845, 3330
Lesser, T. *see* Romero, S. A.
Leston, D. 1908
Letouzey, R., and Mouranhe, R. 1493
Letts, W. W. 743
Levine, J. D. *see* Gilbert, N.
Levy, J. F. 3680
Lewis, H. C. *see* Morgan, L. W.
Lewis, W. C. 717, 2871
Lhota,O., and Mařan, B. 3393
— *see* Mařan, B.
Li, H.-L. 109, 1015, 1975, 1981, 2041
Liddicoet, A. R. *see* Mirov, N. T.
Liese, W. 2768
Lieth, H. *see* Knapp, R.
Liiri, O. 3822
— *see* Siimes, F. E.
Lim, J.-C. 2503
Limaye, V. D., 731, 1508, 3702
Liming, G. E. 2324
Limstrom, G. A. 2209
Lindberg, J. *see* Enkvist, T.
Lindberg, K. 1274
Linde, R. J. van der 348
Lindemann, W. 2425
Lindenthal, W. 2678
Linder, A. *see* Zehnder, J.
Lindgren, Å. 1169
Lindgren, B. O. *see* Adler, E.
Lindgren, L. *see* Lindroth, H.
Lindgren, R. M. 782
—, and Harvey, G. M. 2806
Lindroth, H., and Lindgren, L. 471
Lindstedt, G., and Misiorny, A. 1534–5, 3759
Lindy, K. J. 2789
Ling, L. 1300
Linnemann, G. 3698
Linskens, H. F. *see* Knapp, R.
Lipski, J. 2680
Lipták, V. 254
Lisicyn, D. I. 68
Little, E. L., Jr. 1977
—, and Dorman, K. W. 1976
Little, S., and Moore, E. B. 2093
—, and Somes, H. A. 3383
— *see* McQuilkin, W. E.
Liu, S.-H. 547–8
—, and Hung, L.-P. 550
—, and Yang, P.-L. 549
Livingston, K. W. 3564
Lizardo, L. 2108
Ljunglöf, K. 389
Lloyd, A. H. 380, 1251, pp. 4–9
Lochner, E. H. *see* Petty, B. K.
Locke, E. G. *see* Heritage, C. C.
Loerch, K. A. *see* Larson, P. R.
Loetsch, F. 1396, 1447, 2519, 2521
Løfting, E. C. L. 237
Lohwag, K. 3879
Loksa, I. *see* Dudich, E.
Lombard, F F. *see* Davidson, R. W.
Lombardi, G 718
Longhi, G. 534–5
Longwood, F. R. 221
—, and Salminen, W. A. 244
Lorentzen, S. 362
Lorenz, R. W. 406
Lorenz, V. *see* Daimler, K.
Lorenzi, O. de 3839
Løschbrandt, F. 1702
Lossaint, P. 21
Loughborough, W. K., McMillen, J. M., and Espenas, L. D. 3920
Louis-Marie, Père *see* Groulx, G.
Loveridge, E. W. 1462
Lowson, D. S. 857
Loycke, H. J. 2130
Lübke, A. 2462
Lucas, H. L. *see* Shepherd, W. O.
Lüdge, W. *see* Hierholzer, O.
Lüdi, W. 2056
Ludvigsen, F. P. 1827, 2959
Lukić, N. 2834
Lukjjanćikov, S. 3436
Lundberg, G. 1197
Lundberg, H. 1301
Lundstrom, C. B. 2791
Lunt, A. H. 944
Lünzmann, K. 3587, 3773
Lutwick, L. E., Coldwell, B. B., and Delong, W. A. 1880
Luvisi, F. P. *see* Beebe, C. W.
Lynch, D. W. 249, 3580
Lynn, G. E., and Barrons, K. C. 2373
Lyons, L. A. 2445

Maack, R. 1082
Maas, J. J. *see* Golick, A. J.
McAdam, J. B. 2931
Macarthur, R. S. 3265, 3358
McClay, T. A. 3387, 3415, 3598
McClay, T. C. 3384
McClure, F. A. 2269
McCready, C. C. *see* Harley, J. L.
McCubbin, W. A. *see* Hubert, F. P.
McCulley, R. D. 2084, 3377
McCully, W. G. 406
—, and Darrow, R. A. 2364
McDermott, R. E. 3181
Macdonald, A. *see* Macdonald, J. A. B.
McDonald, I. R. C 1527
— *see* Campbell, W. G.
Macdonald, J. 1123, 3297
Macdonald, J. A. B. 1186, 2199
—, and Macdonald, A. 326
— *see* Brown, J. M. B.
Macdonald, J. M. 391
MacDonald, R. E., and Bishop, C. J. 3979
Macdonald, W. A., and Dunn, S. 2759
— *see* Dunn, S.
McDonnell, C. C. 2436
Macfadyen, A. 2998
McGovern, J. N., Martin, J. S., and Hyttinen, A. 781
—, Martin, J. S., and Kingsbury, R. M. 1707
MacGregor, W. D. 1507
— *see* Scott, C. W.
McGuire, J. R. 2932
Machado, D. Pereira 358
Macías Arellano, L. 236
McIlroy, R. J. 877
McIntosh, W. A. 1725
McIntyre, A. C. 1620
McKay, D. *see* Marckworth, G. D.
McKean, H. B., Blumenstein, R. R., and Finnorn, W. F. 2736
McKee, H. S. 419
McKeen, C. G. 1961
McKenzie, A. W., and Price, J. R. 1766
Mackenzie, J. M. D. 2240
Mackey, T. E. 1288
Mackney, A. W. *see* Cohen, W. E.
Macko, S. 2058
McLaughlin, W. D., and True, R. P. 1319
MacLean, D. W. *see* Bedell, G. H.D.
MacLean, H., and Gardner, J. A. F. 1748
MacLeod, D. M. 1959–60, 3516
McLeod, J. H. 1354
MacLeod, W. K. 3590
McLintock, T. F. 340
McMillan, F. W. *see* Boggess, W. R.
McMillen, J. M. *see* Loughborough, W. K.
McMullen, M. J. 1634
McNally, J. A. 1254
McNeil, D. 2767
McQuilkin, W. E., and Little, S. 3508
McVaugh, R. 1025
McWilliams, H. G. *see* Wells, T.
Madžarević, Ž. 2174
Maeda, T., and Yoshioka, J. 2070
Maftej, I. *see* Podbrežnik, F.
Magdorf, R., Plate, H. P., and Knöpke, W. 2481
Magi, A. O. *see* Sarasola, A. A.
Maguire, W. P. 2193
Mahlstede, J. P. 292–3
Maine, A. B. 3798
Maitra, S. R. *see* Chatterjee, R. S.
Majumdar, S. G. *see* Chatterjee, A.
Makarov, F. N. 2886
Maki, T. E., and Allen, R. M. 288
Makkonen, O. 1242, 3423
Maksimović, M. 2467
Maku, T. 2619, 2691
— *see* Hamada, R.
Malcolm, R. M. 1415
Malevskaja, S. S. *see* Janovskiĭ, V. V.
Mallinson, R. F. A. 2571
Malmquist, L. 1682
Malquori, A., and Cecconi, S. 3158
Malsch, F. W. 2244
Mamada, S. *see* Kitahara, K.
Mancini, F. 2988
Mangenot, F. 2808
Mańka, K. 1963
Mann, R. H. 1626
Mann, W. F. 330, 2145
Manojlović, B. 2464
Mantel, K. 2953

Mantel, W. 1455
— *see* Ganghofer
Mařan, B. 1922
—, and Lhota, O. 955, 1196, 1902, 2251
— *see* Lhota, O.
Marcet, E. 84, 1998
March, E. W. 1801
Marchionatto, J. B. 2407
Marckworth, G. D., McKay, D., and Gross, W. C. 3620
Margowski, Z. 1876
Marian, J. E., and Fickler, H. H. 3790–2
Mariani, G. 893
Mariconi, F. A. Menezes 2458
Marini-Bettolo, G. B., and Falco, M. R. 979
Marinković, B. 2477
Marion, J. 3246
— *see* Defrance, P.
Marković, L. 3259
Markwardt, L. J. 3730
Marples, E. G. *see* Buckland, D. C.
Marquardt, H. 994
Marsden, D. H. 750
Marsh, R. E. 1802
Marshall, C. 1812
Martin, A. M. 2457
Martin, D. W. *see* Rathert, W. H.
Martin, J. S. *see* McGovern, J. N.
— *see* Simmonds, F. A.
Martin, M. E., and Sherk, D. L.1711
Martin, P. 863
Martin, S. C. *see* Parker, K. W.
Martin, W. F., Bentley, H. R., Henry, J. A., and Spring, F. S. 1760
Martín Gáto, T. 2951
Martinelli, M., Jr. *see* Merrick, A. M.
Martínez, J. B. 1621
Martínez, M. 1023
Martínez Mata, F. *see* Elorrieta Artaza, J.
Martini, Z. 3434
Maruyama, I., and Inose, T. 957
Marvin, J. W., and Greene, M. T. 64
Masani, N. J. 1270, 3454
Mascarehas, M. J. *see* Purushotam, A.
Mashimo, Y. 1877
Mason, B., Jr. 3630
Mason, R. 51
Masquelier, J. *see* David, R.
Masson, H. 2973
Matějů, K. 3230
Matérn, B. 1405
Mathauda, G. S. 3373, 3627
Mathewson, J. S. 2743, 3909
Matson, E. E. 1575–6, 2323
— *see* Drake, G. L.
Matsuda, H. *see* Hattori, S.
Matters, C. N., Costa, E. W. B. da, and Tamblyn, N. 3881
Matthews, J. D. 3048
Matthews, L. J. 1303
Matthysse, J. G., and Naegele, J. A. 485, 522
Matusz, S. 914
Matveev, G. K. *see* Leskin, D. F.
Matveeva, A. A. *see* Elagin, I. N.
Mauerer, K. 1869
Mauney, W. S. H., Miller, C. O., Skoog, F., Clayton, R. A., and Strong, F. M. 1937
Maung Hman 1461
Mawson, C. A. *see* Fraser, D. A.
Mayer-Wegelin, H. 1510, 1690, 2953, 3385, 3728
—, and Schulz-Brüggemann, M. 3625
Mazek-Fialla, K. 2264
Meakin, K. S. 2683
Meek, W. L., Curtin, T. W., and Walters, C. S. 3859
Meeuse, J. D. 1934
Megha, G. 3401
Mégille, X. de 379, 1255
Meidner, H. 1941
Melander, L. W. 406
Melin, E., and Nilsson, H. 2013
Melle, P. J. van 123, 3175
Mello, E. Cunha 2603
Mellström, B. *see* Notini, G.
Ménager, H. 1128
Mendlina, N. G. 1724
Mene, P. S., and Warhadpande, U. R. 860
Menon, K. D. 2450
Mentzer, C., and Pachéco, H. 3757
Meredith, R. 3719
Merewether, J. W. T. 654, 3745
Mergen, F. 3050
—, and Winer, H. I. 1279
Meriluoto, J. 1573, 3922
Merker, E. 2953
—, and Müller, H. 1373
Merkle, J. 1078
Merkle, R. 1325
Merrick, A. M., and Martinelli, M., Jr. 2286
Merrick, M. J. 1603
Merthyr, Lord 459
Merz, R. W., and Plass, W. T. 324
Mésanguy, M.,Kraffe de Laubarède, L., and Frick, M. 2756, 3836
Messeri, A. 627
Messines, J. 960, 1185, 1832
Metcalfe, C. R. 621, 3683
Meteer, J. W. 3591
Métro, A. 279, 917, 3139
—, Vidal, P., and Sauvage, C. 3400
Mettus, K. Ja. 2327
Mety, B. *see* Tufts, D.
Metz, L. J. 18
Meyer, F. J., and Gooch, R. M. 1636
Meyer, H. 1324, 1688, 1946, 2117
— *see* Rohmeder, E.
Meyer, H. A., and Keller, W. C. 563
—, and Nelson, F. B. 553
—, Recknagel, A. B., and Stevenson, D. D. 1438
— *see* Worley, D.
Meyer, J. 1385, 3577
Meyer, K. A. 155
Meyer, T. 129
Meyer, W. H. 2536, 2552
Mezera, A. 1997
Michael, M. *see* Anstee, J. R.
— *see* Blumann, A.
Michaelis, P. 2440
Michajlow, J. [Mihajlov, I. S.] 1422
Michelman, J. 734
Michelson, A. 605, 3241
Miedler, K. A. 3818
Miegroet, M. van 2146, 3290
Mielke, J. L., and Cochran, G. W. 105
Miettinen, J. K., and Virtanen, A. I. 2014, 3165
— *see* Virtanen, A. I.
Migita, N., Kanda, T., and Hashimoto, Y. 975
—, and Nakano, J., and Nagano, T. 2638
Miguel, A. F. 578
Mihajlov. I. S. *see* Michajlow, J.
Mikaelsen, K. 3056
Mikit, E. A. 2667
Mikuletić, V. 447
Milán, M. 2487
Milde, F. 3312
Milević, K. 2135
Miller, C. O. *see* Mauney, W. S. H.
Miller, D. G. 3811
Miller, E. C., and Hansen, G. E. 745
Miller, H. 1713
Miller, M. S. 3431
Miller, O. B. 1006
Miller, P. R., and Gravatt, G. F. 2417
—, and O'Brien, M. 1307
Miller, W. E. 1918
Millett, M. A. 2853
— *see* Saeman, J. F.
Millett, R. S. 3711
Milletti, M. *see* Poggi, A. R.
Millischer, H. *see* Berthon, R.
Mills, J. S., and Werner, A. E. A. 874
Milne-Redhead, E. *see* Turrill, W. B.
Milosavijević, R. 1355, 1358
Miloševič, M. 2245
Mina, V. N. *see* Zonn, S. V.
Minami, K. *see* Shibamoto, T.
Minckler, L. S., and Deitschman, G. H. 3365
Minev, K. 2415
Minguzzi, C., and Naldoni, K. M. 2563
Minin, D. D. 2134
Mirhaydari 2927
Mirković, D. 2527
Mirov, N. T. 3992
—, Duffield, J. W., and Liddicoet, A. R. 2128
— *see* Iloff, P. M., Jr.
Misiorny, A. *see* Erdtman, H.
— *see* Lindstedt, G.
Mitchell, H. C. 3360
Mitchell, R. T., Blagbrough, H. P., and Etten, R. C. van 2441
Mitscherlich, G. 2542
—, and Ganssen, R. 1204
Miyajima, H. 3318
— *see* Ohsawa, M.
Miyazaki, M. 2913, 2915
Miyazaki, Y. *see* Harada, H.
Miyoshi, S., and Ogata, Y. 3650
Miyoshi, T. 2005, 2657
Mizumoto, S. 2820
Moberg, T. R. 2084
Moessner, K. *see* Cunningham, R. N.
Moessner, K. E. 3636
Moffett, A. A. 2150
Mohrberg, W. *see* Jayme, G.
Mokeev, P. I. 2723
Molčanov, A. A. 177
Moldenhawer, K. 2563
Moldenke, H. N. 3133, 3142
Molnar, A. C. 444
Moltesen, P. 2287, 3662
Monachino, J. V. 1995
Monod, T. 317
Montigny, R. de 816

Mook, P. V. *see* Basham, J. T.
— *see* Verrall, A. F.
Mooney, O. V. 465
Moore, E. B. *see* Little, S.
Moore, J. D. *see* Varney, E. H.
Moore, P. 1181
Moosmayer, V., 4017
Morandini, R. 3341
Moreau, C., and Moreau, M. 3489
Moreau, M. *see* Berthon, R.
— *see* Moreau, C.
Morellet, J. 1106
Morello, J. 1085
Morgan, L. S., and Kremer, R. W. 2443
Morgan, L. W., Armstrong, G. M., and Lewis, H. C. 3962
Morgenthal, J. 3089
Morison, M. B. *see* Pennock, J. D.
Mork, E. 3307
Morland, R. T. 401
Morley, T. 3115
Morliche, A. 223
Moron, I. 2952
Morris, C. L., and Fergus, C. L. 2397
— *see* Craighead, F. C.
Morrison, G. R. 1234
Morrison, L. M. *see* Ardenne, M.
Mort, G. W., and Hewitt, B. R. 3015
Mortimer, P. I. *see* Hills, K. L.
Morton, D. *see* Chittenden, A. E.
Moses, P. J. *see* Hetrick, L. A.
Mosevič, P. I. 2328
Moss, E. H. 3215
Mottett, A. L. 1718
Mouranhe, R. *see* Letouzey, R.
Mourgues, G. 4031
Mouton, G. 4016
Moyse-Mignon, H. *see* Paris, M. R.
Mpenos, G. 1179
Mráz, K. 31
Mroczkiewicz, L. 1872
Mrozewski, S. 879
Mucha, W. 1876
Mučnik, S. Ja. 3449
Mudrich, H. 2030
Muhammad, K. 2206
Mukerjee, S. K., and Murty, V. V. S. 58
Mukerji, B. K. 2918
Mukherjee, J. N. 2900
Mukherjee, S. K. 1949
Mulcahy, P. J. 2863
Muller, C. H. 92, 3106
Müller, H. *see* Merker, E.
Müller, J. M., Schlittler, E., and Bein, H. J. 1756
Müller, K. 4017
Müller, S. *see* Jänichen, H.
Müller, W. 1562
Müller-Kögler, E. 2459
—, Sy, M., and Thielicke, W. 429
Münch, E. *see* Neger, F. W.
Munns, E. N. 34, 1820
Murie, O. J. 51
Murray, H. L. *see* Rathert, W. H.
Murray, J. S. 2376, 3495
Murto, J. O. 1704, 3954
Murty, V. V. S. *see* Mukerjee, S. K.
Muschler, A. F. *see* Wangaard, F. F.
Musgrave, O. C., and Wagner, H. M. 57
Musgrave, R. B. *see* Stone, E. L., Jr.
Muthig, J. 3844
Naegele, J. A. *see* Matthysse, J. G.
Naffa, P. 1774
Nagano, T. *see* Migita, N.
Nagaraj, M. 3047
Nagaraja Rao, K. *see* Peck, R. E.
Nagata, J. *see* Toyama, S.
Nair, C. S. B. *see* Nair, P. V.
Nair, G. V., Poti, A. N., and Pillay, P. P. 2910–1
Nair, K. N. R. 3260
Nair, K. R. 934, 1408, 1480
Nair, P. V., Pillai, M. S., and Nair, C. S. B. 4008
—, Pillai, M. S., and Pillai, K. S. M. 4006
—, Pillai, K. S. M., and Varier, N. S. 3999
—, and Punnoose, T. V. 3972
Naito, K. *see* Kishimoto, S.
Najmr, S. 1879
Nakagawa, S. *see* Shigesawa, S.
Nakamura, K. 3095
—, Satoo, T., and Goo, M. 3275
— *see* Senda, S.
Nakamura, T. 2632, 3731
Nakano, J. *see* Migita, N.
Nakashima, T. 1914
Nakato, K. *see* Kadita, S.
Nakatsuka, T. 1932, 2846
—, and Watanabe, C. 2689
Nakayama, J. 62
Naldoni, K. M. *see* Minguzzi, C.
Nambiyaar, V. P. N. 1502, 2618
Narasimhachari, N., and Seshadri, T. R. 870
Narayanamurti, D. 1582, 1592, 1610
—, and Dhamaney, C. P. 689
—, George, J., and Verma, G. M. 777, 3883
—, and Verma, G. M. 3884
— *see* Krishna, S.
Naruse, Y. *see* Sumita, Y.
Nash, J. G. 2846
Näslund, M. 4023
Natividade, J. Vieira 356
Naude, T. J. 3547
Navalkar, B. S. 190
Naves, Y.-R. 1779
Nayar, B. K., and Nayar, P. N. 415
Nayar, P. N. *see* Nayar, B. K.
Neale, F. R. 1706
Nearn, W. T., and Kersteter, A. 749
—, and Norton, N. A. 1551, 1590
— *see* Bedell, J. H.
Neetzel, J. R. 470
— *see* Kaufert, F. H.
Neff, L. P. 220, 1386
Neger, F. W., and Münch, E. 1012
Negi, S. S. *see* Kehar, N. D.
Negisi, K. *see* Goo, M.
Nehring, K., and Schramm, W. 1740–1
—, and Schütte, J. 1739
Neidhardt, N. 4040
Neill, K. G. *see* Cannon, J. R.
— *see* Hughes, G. K.
—. *see* King, F. E.
Neilson-Jones, W. 2345
Neiswander, R. B. 521
Nelson, E. R., and Price, J. R. 1768, 2902
— *see* Haynes, H. F.
Nelson, F. B. *see* Meyer, H. A.
Nelson, T. C. 172
Němec, A. 1174, 1149, 2172, 2344, 2349
Nerincx, E. 1171
Neugebauer, W. O. 3531
Neumark, S. 1909
Neusser, H. 1476
Neves, C. M. Baeta 2490
Newman, T. 252
Neybergh, A. G. 2916
Nichols, J. M. 406
Nicholson, D. I. 344
— *see* Greenham, C. G.
Nickell, L. G. 404
Nienstaedt, H. 2403
Niering, W. A. 3216
Nifterik, L. A. van 2575
Nikitin, N. I. *see* Zaĭceva, A. F.
Nilsson, H. *see* Melin, E.
Nilsson, K.-E. 1143
Nishimoto, K. *see* Inouye, Y.
Nitto, M., and Tachibana, K. 3567
Noakes, D. S. P. 567
Nodzu, R., Goto, R., and Kozai, Y. 2687
Noerkamal, M. T. 806
Noguchi, Y. 1905
Nohara, Y., and Zinno, Y. 426
Noirfalise, A. 3199,
—, and Calembert, J. 2987
Nolan, W. J., and Brown, W. E. 1708
— *see* Harvin, R. L.
Nolde, I. von 3675
Nonveiller, G. 1363
Nord, F. F., and Stevens, G. de 658, 1523
— *see* Schubert, W. J.
— *see* Stevens, G. de
Nordin, V. J. 3498
Nordström, L. 3287, 3292
Nordström, T. 1231
Northcote, K. H. 28
Northcott, P. L. 2731
Norton, N. A. *see* Bedell, J. H.
— *see* Nearn, W. T.
Notini, G., Forselius, S., Bramford, S., and Mellström, B. 1331
Novak, K. *see* Doskočil, J.
— *see* Landa, V.
Novak, V. *see* Gregor, F.
Novorossova, L. E. 20
Novotný, M. 2335
Nowak, A. 1723, 2867
Nutman, F. J., and Roberts, F. M. 2401
Nygren, K.-G. *see* Almberger, P.
Nyholm, I. 272
Nylinder, P. 632, 1212

Obalil, Z. 2510, 2525, 3604
Obmiński, Z. 2268
O'Brien, M. *see* Miller, P. R.
Ocskay, S. *see* Paşcovschi, S.
Oda, M. 736
Office National d'Etudes et de Recherches Aéronautiques (O.N.E.R.A.) 2793
Ogata, Y. *see* Myioshi, S.
Ogawara, J. *see* Hirai, S.
Ogihara, S. 1904, 1906
Ogura, T. 797 8, 2835
—, and Onuma, K. 1504
—, Terazawa, S., and Tutumoto, T. 3917
Ohashi, H. 2815
Ohmasa, M. 26
Ohsawa, M., and Miyajima, H. 1511
Ohse, G. *see* Klauditz, W.

Oieni, S. 3409
Okamoto, K. *see* Toyama, S.
O'Kelly, P. F. 251
Okinaga, T. 1894–5
Oksbjerg, E. 238
Olberg, A. 1458, 1791
Olberg, R. 4017
Olive, C. L., Jr., and Umland, C. B. 2157
Ollinmaa, P. J. 3143, 3601
— *see* Gustafsson, C.
Olsen, L. P. *see* Gevorkiantz, S. R.
Olson, D. S. 523
Olson, O. H. *see* Wise, L. E.
Öman, E. 2896
On, D. 2152
Onaka, F. 174–5
O'Neil, F. W. 816
O'Neill, A. J. *see* Dietz, A. G. H.
Onno, M. 202
Onofry, A. 1228
Onuma, K. *see* Ogura, T.
Oomi, S. 3005
Oosting, H. J., and Reed, J. F. 208
— *see* Kramer, P. J.
Oosting, W. 3414
Oppermann, A. 2817
Oppliger, F. 3355
Opsahl, W. 3177
Oranskiĭ, N. I. 1749
Orchard, C. D. 1440, 3602
Orel, G. F. 2321
Oreščanin, D. 1468
Orlov, I. I. 2263
Orlov, M. N. 3781
Orlov, S. F., and Pavluškov, L. V. 2313
Orman, H. R. 3732, 3771
Ormancey-Potier, A., Buzas, A., and Lederer, E. 1755
Ormerod, J. L. 3265
Orsenigo, M., and Boncompagni, T. 448
— *see* Baldacci, E.
Örtengren, T. *see* Björckebaum, R.
Orth, R. 2700
Ortuño, F. *see* Ceballos, L.
Osborne, J. G. 1406
Osipov, M. E. 3444
— *see* Abrarov, I. Š.
Österreichische Stickstoffwerke Aktiengesellschaft 3846
Ostrander, M. D. *see* Banks, W. G.
Oudin, A. 3405
—, Aubert, G., and Duchaufour, P. 948
Overbeek, J. van 61
Overstreet, R. 61
Ovington, J. D. 2008
Owen, G. 2823
Owens, C. B. 406
Owtram, I. H. *see* Burrell, J. P.
Ozol, A. M. 158
—, and Zarubin, A. F. 3068

Pachéco, H. *see* Mentzer, C.
Paclt, J. 3699
Paddon, T. W. 2595, 3689
Paine, L. A. 1306
Pal, N. 73
Palm, B. 2379
Palm, T. 501
Pande, J. N. *see* Purushotam, A.
— *see* Tewari, M. C.
Panferov, K. V. 3723
Panov, A. 163, 266
Panov, N. I. 2329
Panshin, A. J. *see* Brown, H. P.
Paolis, D. de 184
Parant, E. 3238
—, and Chevalier, Y. 1833
Pardé, L. 126
Pardee, A. M. *see* Bennett, E. C.
Pardy, A. A. 114, 1007, 1971, 3080
Paredes, A. 1956
Parene, E. 1602
Parfenov, G. M. 1258
Paris, M. R. 3990
—, and Moyse-Mignon, H. 3988
Parker, A. K. 3581
Parker, H. A. 2105
Parker, J. 160, 1080, 2151, 2188, 3032
Parker, K. W., and Martin, S. C. 2366
Parkin, K. F. 2137
Parkin, P. H., and Purkis, H. J. 3705
Parks, W. H. 2855, 3926
Parmenter, L. 2454
Parry, M. S. 1130, 1799, 3251
Paşcovschi, S., Ocskay, S., and Lăzărescu, C. 2122
Passannante, A. *see* Schubert, W. J.
Pastuszyński, F. 2274
Patel, C. B. *see* Patel, C. S.
Patel, C. S., and Patel, C. B. 983
Patel, M. K., Kulkarni, Y. S., and Dhande, G. W. 103
Patočka, J., and Turček, F. 3514
Patronsky, L. A, and Worth, H. E. 652
Patton, E. A. *see* Baker, M. W.
Paul, B. H., and Drow, J. T. 2616
Pauley, S. S., and Johnson, A. 95
Pause, H. 3773
Pavari, A. 961, 3093
Pavluškov, L. V. *see* Orlov, S. F.
Pavlychenko, T. K. 406
Pawsey, C. K. 3026
Payne, M. A. *see* James, L. M.
Peace, T. R. 1026, 1276, 2410, 4050
Peake, F. G. G. 499
Pearce, S. C. 2970
Pearl, W. L. 3880
Pearsall, W. H. 2039
Pearson, F. G. O., and Richards, E. G. 1564, 3803
Pearson, R. G. 814
Pechmann, H. von 2953, 3191
Peck, R. E., Griffith, R. T., and Nagaraja Rao, K. 3908
Peĭč, N. N. 2840
Peigne, D. 1650
Pein, E. 3278
Pejoski, B. 1772, 2020, 2849, 2906–7, 3830
— *see* Varicak, T.
Pelišek, J. 1883, 2011
Pellegrin, F. 150, 3110, 3120
Pendlebury, C. L. 3257
Pendleton, R. L. *see* Prescott, J. A.
Penfold, A. R., and Willis, J. L. 3063
Penfold, H. M. 3298
Penistan, M. J. 2241, 2551
Penman, H. L., and Schofield, R. K. 1928
Pennington, D. E. *see* Hammarlund, E. R.
Pennock, J. D., and Morison, M. B. 1416
Pentegova, V. A. 1514
Pepler, W. A. E. 1248
Pereira, H. C. 159, 3003
Pereira, J. Aranha, and Russo, A. 702
Perelygin, L. M. *see* Šimanjuk, A. P.
— *see* Vihrov, V. E.
Perera, S. P. 3469
Perfilov, M. A. 2308
— *see* Bočko, N. A.
Perilä, O., and Seppälä, E. 1658
Perkitny, T. 2680
—, and Kryczko, M. 2267
Perović, B. *see* Popović, V.
Perrier de la Bathie, H. 141, 3102
Perrin, H. 2960
Perrot *see* Allard
Perry, R. A. *see* Christian, C. S.
Perry, T. 2792
Perry, T. D. 714, 732, 1584
Persoglio, I. 2042
Pesante, A. 107, 3526
Peter, O. 3853
Peterson, R. A. 2253
Peterson, W. H. *see* Gregory, K. F.
Petračić, A., and Anić, M. 2065
Petrov, Ja. P. 1737
Petrov, V. V. 3183
Petrović, D. S. 3310
Petrović, L. 3429
Petty, B. K., and Lochner, E. H. 2437
Petz, A. 694
Pew, D. D. 2795
Pew, J. C. 661, 3739
Peynaud, E. 978
Pfeffer, A. 2486
Philippis, A. de 4049
Phillips, E. P. 1004
Piccarolo, G. 219
Pichon, M. 128, 3099
Pickel, D. B. J. 3087
Pickren, J. H. 2771
Piening, W. 2794
Pierlot, R. 3267
Piernick, E. I. 2705
Pietkiewicz, K. 1147
Piggot, G. D. *see* British Basket & Besto Co. Ltd.
Pigman, W., Anderson, E., Fischer, R., Buchanan, M. A., and Browning, B. L. 3761
Pijl, L. van der 1942, 3044
Pilipenko, F. S. 98
Pilla, C. 3014
Pillai, K. S. M. *see* Nair, P. V.
Pillai, M. S. *see* Nair, P. V.
Pillay, P. P. *see* Nair, G. V.
Piller, J. 3773
Pillow, M. Y. 630, 696, 805, 811, 1501
Pimštein, A. S., and Koljadin, B. I. 1256
Pinto, G. Pereira 2919
Pirie, N. W. 61
Pirjatinskiĭ, A. *see* Bardyšev, I. I.
Pisano, E. 247
Piskunov, M. M. *see* Daragan, L. D.
Pittman, H. B. Jr., and Johnson, E. S. 3832
Pjatnickiĭ, S. S. 3067
Place, I. C. M. 2028, 3170
— *see* Dixon, A. C.
Plasman, A. 3488
Plass, W. T. *see* Merz, R. W.
Plate, H. P. *see* Magdorf, R.
Plateau 41

Plath, E. 3797
—, and Schmidt, H. 765
Platzer, H. B. 2296
Playfair, L. G. 406
Plouvier, V. 3029
Plow, R. H. *see* Baker, W. J.
Plumb, G. H. 3623
Podbrežnik, F., and Maftej, I. 1553
Podhorski, I. 1028, 2162
Podoljskaja, O. I. 276
Poggi, A. R., and Milletti, M. 3736
Polanský, B. 1146, 3230
Poledica, D. V. 3157
—, and Stankević, P. 3155
Polk, R. B., and Boe, K. N. 2098
Pöllänen, K. 3445
Pollock, B. M. 3035
Pollock, W. P. 1132
Polnar, M. *see* Černý, R.
Pond, T. M. 1236
Pongracz, A. F. 2856
Poole, A. L. 51
—, *et al.* 51
Poole, J. R. M. 2738, 2747
Popcov, A. V., and Buč, T. G. 2144
Popović, V., and Perović, B. 2833
Posey, H. G. *see* Kaufman, C. M.
Pospíšil, J. 1140
Poti, A. N. *see* Nair, G. V.
Potin, L. 2555
Potter, L. D. 1077
Potts, S. F., and Spencer, R. A. 3458
Potts, S. M. *see* Zimmerman, A. H.
Potzger, J. E., and Keller, C. O. 1074
Pourtet, J. 1993, 3255, 3300, 3408, 4050
Power, G. E. 2796
Pozdnjakov, L. K. 3070
Pracy, L. T., and Kean, R. I. 50
Prasad, J. *see* Griffith, A. L.
Prat Roure, L. de 3977
Prats Zapirain, M. 3295
Pratt, E. R. 2534
Pratt, G. H. *see* Stevens, W. C.
Pravdin, L. F., and Filimonova, V. D. 3288
Prax, J. 1834
Prebble, M. L. 2457
Predescu, G. 2526
Prescott, J. A., and Pendleton, R. L. 950
Preston, R. D. 1926, 3694
—, and Singh, K. 626
Price, J. R. *see* Cannon, J. R.
— *see* Haynes, H. F.
— *see* Lamberton, J. A.
— *see* McKenzie, A. W.
— *see* Nelson, E. R.
Price, J. T. 2666
Priddle, A. C. 2575
Pridham, A. M. S. 2176
Priehäusser, G. 227
Příhoda, A. 966, 2409, 2414
Prince, G. H. 1800
Prister, M. *see* Cividini, R.
Prodan, M. 1392
Pryor, L. D. 3064, 3069
Pukkaman, S. 3961
Pulgar Vidal, J. 2127
Pungs, L. *see* Kröner, K.
Punnoose, T. V. *see* Nair, P. V.
Puntambekar, S. V. 875, 1696
—, and Batra, P. C. 4000
— *see* Rao, P. R.
Purkayastha, C. *see* Huberman, M. A.
Purkis H. J. *see* Parkin, P. H.
Puroshotam, A. *see* Tewari, M. C.
Purushotam, A., and Jain, J. C. 768
—, and Mascarehas, M. J. 1538
—, Pande, J. N., and Jadhave, Y. G. 2760
Purves, C. B. 816
Putkisto, K. 1272, 2283–4, 2306, 2314, 2557, 3441

Qadri, M. A. H. 1341
Quastel, J. H. 1878
Quézel, P. 3200
Quigley, K. L. 701
Quintus, D. 536
Quintus, R. L. 1167
Quirke, D. A. 3485

Rabinowitch, E. 61
Rada, A. *see* Stecki, K.
Radcliffe, D. N. 489
Radhakrishnan, A. N. *see* Giri, K.V.
Radimir, D. 1604, 2256, 2261
Radivojević, R. 2710
Radkov, I. N. 1111–2
Radonjić, M. 2512
Radosavljević, S. D., and Despić, A. R. 873
Rădulescu, T. 2461
Radvan, R. 3875–6
Raekelboom, E. L. *see* Istas, J.-R.
Rahmanov, S. I. 3437
Rai, L. 1221
Rakos, J. J. 2801
Ralston, J. M., and Klein, M. 817
Ralston, R. A. 2196
— *see* Rudolf, P. O.
Ramakrishnan, V. 3041
Ramaswamy, M. N., Varadaraj, S. K., and Gowda, D. R. 3710
Rambo, W. H., and DeRice, H. A. 3776
Ramírez Cantú, D. *see* Bravo Hollis, H.
Rance, H. F. 3719
Randel, W. C. 2280
Ranganathan, C. R. 1114
— *see* Chaturvedi, M. D.
Ranghel Galindo, A. 1790
Rao, C. V. 987
Rao, H. S. 3315
Rao, P. H. 1744, 2890
—, and Puntambekar, S. V. 1743
Raposo, F. 615
Rapp, G. M. 2740
Rasenack, D. *see* Freudenberg, K.
Rastogi, R. P., Sharma, V. N., and Dhar, M. L. 872
Rathert, W. H., Wilson, L., Murray, H. L., Wilson, C. A., and Martin, D. W. 368
Ratnikov, E. F. 746
Rave, D. 1124
Ravensberg, K. 504
— *see* Vreeling, L. H.
Rawitscher, F. 3221
Rawls, I. W. 2558
Ray, J. N. 1624
Raymond, W. D. 1745
Raymond-Hamet 1758
Reader, D. E. 2920
Recke, Graf von der 2114
Recknagel, A. B. *see* Meyer, H. A.
Redmond, D. R. 433
—, and Robinson, R. C. 2392
Reed, J. F. *see* Oosting, H. J.
Reeks, W. A. 516
Rees, C. 3835
Rees, L. W. 3808
— *see* Kaufert, F. H.
Regnier, R. 4050
Rehm, H. J. *see* Krampe, O.
Rehman, M. A. 1591, 1600
—, and Kishen, J. 1601
Reichstein, T. *see* Hauenstein, H.
Reid, J. S. *see* Entrican, A. R.
— *see* Ward, W. C.
—, *et al.* 812
Reid, R. W. 1370
Reid, W., Hollingsworth, B. C., and Wilson, H. H. 698
Reimer, C. W. 3066
Reinders-Gouwentak, C. A. 3323, 3325
—, and Sipkens, J. 3324
—, and Veen, J. H. van der 3192
Reinhold, F. 3302
Reinhold, M. 2289
Rejić, H. 2202
Rendeli, V. 2464
Rennenkampf, W. van 3842
Rennerfelt, E. 1629, 1656, 3482
Reyes, L. 406
Reynolds, E. A. P. 3012
Reynolds, R. R. 2232
Rex, E. G. *see* Walter, J. M.
Reznik, H. *see* Freudenberg, K.
Rhoads, A. S. 2390
Rhodes, R. R. 353
Ribas-Marquès, I. 2894
Ricard, L. 3464
Rice, H. R. 1615
Richard, F. 3156
Richards, C. A. *see* Blew, J. O.
Richards, D. B. 2810
Richards, E. G. *see* Pearson, F. G.O.
Richards, M. 3898
Richards, P. W. 211
Richardson, N. A. 1622
Richardson, S. D. 3167, 3184
Richter, G. 3521
Richter, H. 390
Richtzenhain, H., and Dryselius, E. 3743
— *see* Hägglund, E.
Ridder, H. 3773
Rieck, W. 2485
—, and Vité, P. 2475
Righter, F. I. *see* Duffield, J. W.
Riker, A. J. *see* Gregory, K. F.
— *see* Kuntz, J. E.
Riley, C. G. 2391
—, Denyer, W. B., and Whitney, R. D. 393
Ringoet, A. 1927
Ripley-Duggan, B. A. 2620, 2765
Rising, L. W. *see* Hammarlund, E. R.
Ritchie, E. *see* Anet, F. A. L.
— *see* Cannon, J. R.
— *see* Ewing, J.
— *see* Hughes, G. K.
Ritchie, J. L. 1470
Rittenhouse, R. C. *see* Wise, L. E.
Ritter, G. J. 2606, 3737
Rivals, P. 3213
Rivas Doday, S. 1061
Roach, A. W. 193
Robak, H. 2402, 3078–9
Roberg, J. 699
Robert, A. 507, 508
— *see* Traynard, P.

Roberts, F. M. *see* Nutman, F. J.
Roberty, G. 1067
Robinson, I. 3039
Robinson, J. M. 2545
Robinson, R. C. *see* Redmond, D. R.
Rodger, A., and Allsop, F. 599
Rodionov, V. I. 2330
Roe, A. L. 1424
Roe, E. I. 406
— *see* Stoeckeler, J. H.
Rogers, J. S. 1747
Rogers, R. T., and Behr, E. A. 1641
Rodmeder, E. 2036
—, and Meyer, H. 1134
— *see* Hilf, H. H.
Rohmeder, M., and Dimpflmeier, R. 996
Röhrig, H. 1343
Röhrl, A. M. 2337
Roisin, P. 197
—, and Thill, A. 2060
Rol, H. 4050
Romanova, Ju. S. 492
Romero, S. A., Corothie, H., Delgado, E., Tamayo, F., and Lasser, T. 1821
—, Corothie, H., and Gondelles, A. R. 1464
Ronde, G. 1896, 4017
Roonwal, M. L. 1340, 1368
Rörig 1037
Rosayro, R. A. de 3236
Rosel, A. 2827
Rosen, E. 853
Roser, E. *see* Sohn, A. W.
Rosevear, D. R. 3022
Ross, D. A. 965, 2434
Roth, E. R. 2386
Roth, L. F. 1316
Rothery, J. E. 1851
Rothwell, W. 2778
Rotnickii, M. A., and Uryšev, N. I. 800
Roudier, A.,and Eberhard, L. 668
Roupec, J. 3600
Roussel, L. 2972
Roux, B. 1738
Rouzet, L. 3847
Row, L. R. 2897
Rowe, J. S. 2422
Roy, D. P. *see* Bhat, R. V.
Royen, P. van 3126
— *see* Lam, H. J.
Rozeira, A. *see* Silva, A. R. Pinto da
Rožkov, D. S. 3785
Rüb, F. 677
Rubens, E. 757, 3708
Rubidge, A. B. 3424
Rubio Mazón, J. M. 1223
Rubner, K. 2337
Rubtov, S. 2175, 2185
Rudd, V. E. 1086
Rudd Jones, D. 435, 440
Rudolf, P. O. 273
—, and Ralston, R. A. 2025
Rüedi, K. 1182
Rühl, A. 942
Runckel, W. J. 2876
— *see* Anderson, A. B.
Rupert, P. 3339
Rusden, P. L. 443
Russell, N. H. 3217
Russell, P. *see* Fox, L.
Russo, A. *see* Pereira, J. Aranha
Rutherford, W., Jr. 3422
Ryberg, M. E. 1226
Rzasa, S. 1876

Saarnio, J. *see* Gustafsson, C.
Saatçioglu, F. 880, 916, 3343
Šabašev, A. M. 2319
Sabet, K. A., and Dowson, W. J. 2406
Sadowska, E. 3652
Saeman, J. F. 2753
—, Millett, M. A., and Lawton, E. J. 3754
Šafar, J. 2097
Saharov, M. I. 11, 194
Sahni, K. C. 1968
Saï, M. S. B. 3206
Sāibī, H. 320
St. George, R. A. 1673
Sainz Margareto, M. 3231
Saito, Y., Kitahara, K., and Ishii, K. 1559
Sakai, H. *see* Shibamoto, T.
Saks, E. V. 2744
Saldarelli, R. 396
Salisbury, Sir E. 198
Sallenave, P. 1550, 1663
Salminen, W. A. *see* Longwood, F. R.
Salzer, H. *see* Wultsch, F.
Samapudhi, K. 3672
Sambergs, Å. 926
Samorzewski, J., and Źbikowski, T. 2627
Sampaio, A. Navarro 3679
Samuel, R. 3833
Samuelson, K.-R. 1428
Sánchez Cózar, S. 1214
Sandermann, W., Froede, O., and Casten, R. 753
—, and Jonas, G.-Z. 2769
Sanders, M. 3140, 3141
Sandström, S. 1633
Sandwith, N. Y. 115, 1024
—, and Kobuski, C. E. 151
Sangster, R. G. 568, 907
Sankey, J. H. P. 970
Santa Rosa, J. 1230
Santos, M. C. *see* Burgos, J. J.
Santos, N. Ferreira dos 164, 2012
Šapoval, A. P. 2721
Sappa, F. 195
Sarasola, A. A., and Magi, A. O. 453
Sardinha, A. Manuel 1129
Sarvas, R. 4050
Sato, K. 1944
Sato, O. *see* Shibamoto, T.
Sato, Y. 1141
Satoo, S. 1938, 3317
Satoo, T. 985, 2250
—, and Takegosi, T. 1933
— *see* Nakamura, K.
— *see* Senda, S.
Sauvage, C. 3201
— *see* Métro, A.
Savage, F. L. 3860
Savile, D. B. O. 1967
Saville, G. 3666
Savory, H. J. 3154
Sawada, K. 1308, 3473
Sawada, S. *see* Shimada, H.
Scaramuzza, A. 3575
Scaramuzzi, G. *see* Baldacci, E.
Ščepotjev, F. L., and Borisenko, T. T. 86
Ščetinin, I. P. 1736
Schaeffer, L. 566, 1439, 2229, 3584
Schaerffenberg, B. 2492
Schans, D., and Soest, J. van 181
Schantz-Hansen, T. 329
—, and Jensen, R. A. 264
Schedl, K. E. 1913, 3019
Scheffer, T. C., and Englerth, G. H. 778
—, and Zabel, R. A. 3921
Schenck, C. A. 2115
Schifferli, A. 1376
Schimitschek, E. 481, 2470, 3566, 3568
Schindler, U. 1389, 3558
Schlatter, A. J. 1273
Schlenker, G. *see* Hauff, R.
— *see* Jänichen, H.
Schlitter, E. *see* Müller, J. M.
Schmausser, M. 3773
Schmid, H., and Zeidler, H. 3169
Schmidt, E. 1488, 2590
Schmidt, H. *see* Plath, E.
Schmidt, L. 2464
Schmidt, W. 1133, 3149
Schmied, H. 2265
Schmitz-Lenders, B. 2183, 2222
Schneider, A. E. *see* Buckman, R. E.
Schneider, F. 513
Schnell, R. 1068, 3208
Schnell, R. L. 1642
Schober, R. 1429, 3621
— *see* Grundner
Schofield, R. K. *see* Penman, H. L.
Scholles, W. 3851
Scholz, H. F. 234
Schönhar, S. 2404, 2993, 4017
Schönwiese, H. 2292
Schopmeyer, C. S. *see* Cooper, R. W.
Schramm, W. *see* Nehring, K.
Schread, J. C. 3512
Schreiber, R. *see* Walter, J. M.
Schrödter, H. 351
Schrötter 3256
Schubert, G. H. 2142, 3503, 3507
Schubert, W. J., Passannante, A., Stevens, G. de, Bier, M., and Nord, F. F. 3740
Schuch, K. 3892
Schuder, D. L. 3540
Schuerch, C. 1517
Schuldt, P. H. 1326
Schüler, E. 3560
Schultze-Rhonhof, A. 3219
Schulz, F. 3773
Schulz, G. 1649, 3877
Schulz-Brüggemann, M. *see* Mayer-Wegelin, H.
Schulze, B. 1651, 2785
Schulze, H. 263
Schumacher, F. X. *see* Coile, T. S.
Schütte, J. *see* Nehring, K.
Schvester, D. 3561
Schwappach 533
Schwartz, H. *see* Clermont, L. P.
Schwartz, W. 3715
Schwegmann, L. M. 2600
Schwerdtfeger, F. 512, 3528, 3557
Scott, C. W. 2579
—, and MacGregor, W. D. 1541
Scott, D. R. M., and Fowle, C. D. 1920
Scott, M. H. 2598, 3923, 4047
Scurfield, G. 2057
Sears, P. B. 317
Sebald, A. *see* Jänichen, H.

Sedziak, H. P. 2764
Seibert, P. 1125
Seidel, G. A. 2726
Seidl, R. J. 2734
Seitz, F. W. 3176
Selbo, M. L. 2735
Selm, H. R. de 9
Senda, S., Nakamura, K., Takahara, S., and Satoo, T. 3337
Senić, R. *see* Stanović, S. Č.
Senzyu, R. 1515
Seppälë, E. *see* Perilä, O.
Sergovskiĭ, P. S. 1676
Serruys, J. E. E. 850
Seshadri, T. R. *see* Narasimhachari, N.
Seth, S. K. 3347
Setten, G. G. K. 7, 307, 2124, 3616
Settimj, M. 856
Sevnik, F. 910, 4009
Shah, S. A. 347
Shaibānī, M. 890
Sharma, V. N. *see* Chaudhry, G. R.
— *see* Rastogi, R. P.
Shaw, A. C. 2914, 3996
Shaw, E. W. *see* Worthington, F. P.
Shaw, H. 4047
Shaw, R. H. 2311
Shelford, V. E. 794
Shepherd, R. F. 2532
Shepherd, W. O., Dillard, E. U., and Lucas, H. L. 1108
Sheriar, K. C. 417
Sherk, D. L. *see* Martin, M. E.
Sherlock, F. E. 3787
Shibamoto, T., Fukuzumi, T., and Yangawa, R. 2819
—, and Kawana, A. 1924–5, 2885
—, and Kuriyama, A. 1729
—, Kuriyama, A., Higuchi, M. 1730
—, Kuriyama, A., and Sato, O. 1731
—, Minami, K., and Endo, K. 2883
—, Minami, K., and Kodama, T. 2884
—, Minami, K., and Kubota, S. 1746
—, Minami, K., and Sakai, H. 1732
Shibata, S. *see* Takahara, S.
Shibukawa, K. *see* Ito, K.
Shigemoto, M. 3274
Shigesawa, S., and Nakagawa, S. 716
Shimada, H. 2905
—, Sawada, S., and Fukuda, S. 2904
Shimaji, K. 1495, 2605
Shimazono, H., and Takubo, K. 1653
Shimizu, T. 1645
— *see* Hirai, S.
Shipman, R. D. 3152
Shirley, H. L. 1858
Shishiyama, J. *see* Akai, S.
Shorten, M. 3027
Šibenik, M. 2147
Sibilia, C. 1284
Sides, R. H., and Colucci, R., Jr. 3944
Siemiński, R. 2629
Siempelkamp, E. 2880
Sigmond, J. 2288
Sihtola, H. 2865
Siimes, F. E. 2754
—, and Liiri, O. 1585
Silbernagel, H. *see* Kratzl, K.
Silen, R. R. 1298
Silina, A. A. *see* Ivanov, L. A.
Sillans, R. 149, 3101, 3131
Šilova, E. I. 33
Silva, A. R. Pinto da, Rozeira, A., and Fontes, F. 1062
Silverborg, S. B. 2813
Silvester, F. D. 1596
Silvy-Leligois, P. 3235
Simak, M. 189, 285
—, and Gustafsson, Å. 3294
Šimanjuk, A. P. 170
—, and Perelygin, L. M. 636
Simeunović, D. 2956
Simmonds, F. A., Kingsbury, R. M., Martin, J. S., and Keller, E. L. 3952
Simmons, F. C. 367, 1567
— *see* Drake, G. L.
Simms, D. L. *see* Hird, D.
Simon, G. 1184
Simonović, M. 1249
Simpson, L. J. 1668
Singalevič, M. S. 1266
Singer, A. 2277
Singh, B. 3017
Singh, D. P. 2123
Singh, J. 4020
Singh, K. *see* Preston, R. D.
Singh, M. M. *see* Bhat, R. V.
Sipkens, J. *see* Reinders-Gouwentak, C. A.
Sippell, W. L. 968
Sirakov, G. 1098
Sirén, G. 1165, 3189, 3333
—, and Bergman, F. 1040
Sjöström, H. 3284
Skjelmerud, H. 679
Skoog, F. *see* Mauney, W. S. H.
Skuhravý, V. *see* Doskočil, J.
— *see* Landa, V.
Šlander, J. 1362, 1365, 2483
Slavnić, Ž. 1999
Slednikov, A. K. 1613
Sleumer, H. 134
Slovnik, M. 381
Smallman, B. N. *see* Berck, B.
Smedberg, M. 3438
Smit, J., and Wieringa, K. T. 2997
Smith, A. C. 1020, 1983, 1988, 3123
— *see* Bailey, I. W.
Smith, C. 376
Smith, C. C. 487, 2502
Smith, C. M. 3459
Smith, H. H. 2837
Smith, J. G. 54
Smith, J. H. G. 16
Smith, J. L., and Crabb, G. A., Jr. 35
Smith, N. F. *see* Engle, L. G.
Smith, R. H. 342
— *see* Cook D. B.
Smith, W. A., Kent, F. L., and Stratton, G. B. 2
Smith, W. R. 2716
—, and Goebel, N. B. 643
Smitinand, T. 3128
Šnajperk, R. 3282
Snook, L. C. 2243
Snow, E. A. 3841
Snyder, T. E. 790, 1672
Sočava, V. B., and Bokučava, M. A. 3410
Société Anonyme des Ateliers de Sécheron 802
Söderlund, E. F. 2562
Söderström, G. V. 231, 2195
Soedibja, R. 2212
Soest, J. van 3271
— *see* Schans, D.
Sogo, M. *see* Hata, K.
Sohn, A. W., and Roser, E. 1728
Sokolov, G. A. 2257
Solari, F. S. 2615
Soljanik, I. 2129
Somerville, J. L., and Burkitt, J. S. 834
Somes, H. A. *see* Little, S.
Soó, R. de 1032
Soom, E. 576
— *see* Zehnder, J.
Sorauer, P. 2449
Sørensen, A. M. 312–3
Soriano, J. D. 3072
Sosa, A., and Sosa-Bourdouil, C. 977
Sosa-Bourdouil C. *see* Sosa, A.
Sousa, A. de F. Gomes e 606
Sowash, R. O. *see* Stoeckeler, J. H.
Sowder, J. E. 1371
Spaić, I. 2464–6, 2496
Špalek, V. 1027
Spaulding, P. 442
Speer, J. 2953
Speidel, G. 3426
Spencer, R. A. *see* Potts, S. F.
Spiller, D. 2783, 2828
Špoljarić, Z. 2040
Sprau, F. 3499
Spring, F. S. *see* Martin, W. F.
Sproull, R. C. *see* Kenaga, D. L.
Spurr, S. H. 525, 1058, 1399, 1436, 2520
—, and Allison, J. H. 1425
Squillace, A. E. *see* Bingham, R. T.
Ssorin, V. A. 203
Staebler, G. R. 1417
Staebner, R. C. 924
Stafleu, F. A. 1996
Štajduhar, F. 1260
Staley, J. M. *see* True, R. P.
Stambaugh, W. J. 2411
—, and Bramble, W. C. 2412
Stamenković, B. 1469, 2567
Stamm, A. J. 816, 1607, 3716
—, and Tarkow, H. 2790
Standley, P. C., and Steyermark, J. A. 1008
Staner, P. 927
Stanisławski, A. 2755
Stankević, P. *see* Poledica, D. V.
Stanković, S. Č., and Senić, R. 2912
Stanley, G. W. 691
Staples, R. R. 4047
Staquet, J. *see* Duvigneaud, P.
Starfinger, K. *see* Theden, G.
Stark, R. W. 484, 2452
Staudacher, E. 2739
Stauffer, D. E. 3395
Stearns, J. L., and Hartley, C. 2597
Stecki, K., and Rada, A. 178
Steele, R. W. 3245
Steenis, C. G. G. J. van 1991, 3109
Stefansson, E. 302, 2139
Steininger, A. *see* Kisser, J.
Steinlin, H. 2305
Steinwede, A. 2709, 3864
Stelfox, A.W. 1048
Stenerud, O. 3447
Stentzel, E. 1116
Stenvall, T. 2727
Stephens, J. 322
Stern, E. G. 682
Stern, W. L. 620

Stessel, G. J., and Zuckerman, B. M. 3077
— *see* Curl, E. A.
Steubing, L. 349, 1219
Steven, H. M. 882, 2338
Stevens, G. de, and Nord, F. F. 659, 660
— *see* Nord, F. F.
— *see* Schubert, W. J.
Stevens, W. C. 1680
—, and Pratt, G. H. 2836
—, and Turner, N. 695
Stevenson, D. D. *see* Meyer, H. A.
Stewart, C. M., Amos, G. L., and Harvey, L. J. 3738
—, and Foster, D. H. 3755
—, and Harvey, L. J. 665
Stewart, D. M. 1323
Stewart, K. E., Finnegan, R. J., and Kirby, C. S. 3525
Steyermark, J. A. 145
—, *et al.* 3088
— *see* Standley, P. C.
Stiell, W. M. 3370
Stoate, T. N., and Bunning, C. R. 1449
Stöckli, A. 3001
Stoeckeler, J. H. 406, 3153, 3301
—, and Arbogast, C. 1206
—, Roe, E. I., and Sowash, R. O. 1153
Stoffels, A. 2518
Stoffels, E. 918
Stojanov, G. A. 1039
Stojanović, O. 2513
Stolley, I. *see* Klauditz, W.
Stone, E. L. 392
— *see* Cook, D. B.
Stone, E. L., Jr. 956, 3187
—, and Musgrave, R. B. 308
Stordalen, K. N., and Bollerslev, C. 2875
Story, R. 2076
Stout, B. B. 1073
Straka, H. 80
Strange, J. D. 1227
Straszewska, Z. 1664
— *see* Breny, R.
Stratton, D. 2745
Stratton, G. B. *see* Smith, W. A.
Štrauh, S. A. 423
Strawiński, K. 44
Strege, B. 3470
Štriker, R. 1630
Strong, F. M. *see* Mauney, W. S. H.
Strudel, J. 3837
Stumpf, P. K. 61
Sturany, H. 799, 1683
Sučić, J. 915
Sugano, M. *see* Horioka, K.
Sugihara, H. 2668
Sugiura, G. *see* Kuriyama, A.
Sukačev, V. N. 3276
Sulik, J. 1164
Sułkowski, M. 879
— *see* Grochowski, W.
Sulland, A. 3644
Sumita, Y., and Naruse, Y. 3428
Sundberg, U. 1263
Sunjoto Wiroatmodjo, R. 2000
Surti, M. 1940
Susmel, L. 228, 1451, 3614
Suvarnasuddhi, K. 3671
Suzuki, T. 2071
—, and Hatiya, K. 22
Suzuki, Y. 3717
Svatoš, F. 1145
Swain, E. H. F. 891
Swan, H. 925
Swan, R. J. 2701
Swanson, R. E. 3840
Swart, J. J. 1980
Sweetman, H. L., Benson, D. A., and Kelley, R. W., Jr. 3770
Sy, M., and Thielicke, W. 3477
— *see* Müller-Kögler, E.
Sys, K. *see* Leenheer, L.
Szymański, S. 1876

Taber, W. A. 952
Tachibana, K. *see* Nitto, M.
Tack, C. H. 3721
Tack, G. W. *see* Amos, G. L.
Takahara, S., Kasuya, Y., and Shibata, S. 3987
— *see* Senda, S.
Takahashi, N. 2360
Takase, G. 2524
Takashima, T. 2681, 2682
Takegosi, T. *see* Satoo, T.
Takubo, K. *see* Shimazono, H.
Talbot, P. H. B. 1966
Taller, M. 2197
Tamayo, F. *see* Romero, S. A.
Tamblyn, N. 2787
— *see* Matters, C. N.
Tamesis, F. 1232
Tamm, C. O. 3198
Tamworth, I. P. 2585
Tansley, A. G. 199
Tantraporn, W. *see* Gates, D. M.
Tapia, E. A. 1350
Tarkow, H. *see* Stamm, A. J.
Tatto, L. 3734
Taylor, C. J. 1788, 2075
Taylor, E. R. 2845
Taylor, K. L. 473
Taylor, W. C. *see* Ewing, J.
Taylor, W. I. *see* Bick, I. R. C.
Tazaki, T. 286
Teague, P. D. 1119
Teikmanis, A. 1109
Teixeira, A. Ribeiro 3486
Teramoto, T. *see* Chiba, O.
Terazawa, S. *see* Ogura, T.
Terentjeva, M. V. *see* Godney, T. N.
Terzibašjjan, G. G., and Leĭbzon, Z. I. 861
Terzić D. 357
Tevis, L., Jr. 463
Tewari, M. C., Pande J. N., and Puroshotam A. 1635
Texeira, J. Brito *see* Xabregas, J.
Thacker, D. G., and Good, H. M. 436
Thalassinos, D. 2934
Thalenhorst, W. 1380, 2488, 2498, 3572
Theden, G. 754, 2766, 3861
—, and Becker, G. 756
—, and Engelbrecht, G. 755
—, and Starfinger, K. 3862
Themlitz, R. 1150, 2953
Thielicke, W. *see* Müller-Kögler, E.
— *see* Sy, M.
Thiesmeyer, L. R. 1699
Thill, A. *see* Roisin, P.
Thirawat, S. 3261
Thomas, A. V. 604, 3673
Thomas, R. W. 3472
Thompson, C. L. 1752
Thompson, D. Q. 1337
Thompson, G. H. *see* Fisher, R. C.
Thompson, H. V. pp. 129–36
Thompson, J. O., and Wise, L. E. 666
Thomson, A. P. 1441
Thomson, C. C. 3374
Thomson, J. M. 2290
Thomson, M. G. 493
Thorn, W. A. *see* Zentmyer, G. A.
Thulin, I. J. 3265
Thunell, B. 1648, 3782
Ticknor, R. L. *see* Tukey, H. B.
Tihomirov, B. A. 3172
Tihon, L. 1759
Tikka, P. S. 230
Tillander, T. 925
Timofeev, G. P. 2021
Tinker, M. E. 967
Tirén, L. 1166
Tirkkonen, O.O. J. 3455
Tisserant, P. C. 111
Tkalič, S. M. 3028
Tochizawa, K. *see* Kishimoto, S.
Toda, R. 1159, 3320, 3328
—, and Is[h]ikawa, H. 2156
Todd, A. R. *see* Bick, I. R. C.
Tofani, M. 3649
Toker, R. 3805
— *see* Berkel, A.
Tokushige, Y. 2416
Tomanek, J. 2975
Tomašević, D. 2061
Tomaševski, S. 284
Tomić, D. 1911, 2479
Tominaga, K. 3322
Tonnemacher, F. 2784
Tooke, F. G. C. 1662, 3556
Toole, E. R. 2400
—, and Boyce, J. S., Jr. 2385
— *see* Hepting, G. H.
Torbet, E. R. 1291
Torgeson, O. W. *see* Kimball, K. E.
Torner Ochoa, J. 1778
Toufar J. 1332
Townshend, G. M. 1180
Toyama, S., Nagata, J., Okamoto, K., and Yoshida, M. 3060
Trägårdh, I. 1670
Tranquillini, W. 65
Transtrom, H. L. 554
Trautmann, W. 1060
Traynard, P., and Ayroud, A. M. 2607
—, and Robert, A. 663, 1525
Trégis, L.-A.-J. 3919
Tregubov, V. 3237
Trepp, W. 345
Trevett, M. F. 2370
Trifone, R. 901
Trikojus, V. M. *see* Hackman, R. H.
Trimble, G. R., Jr. 25
— *see* Weitzman, S.
Tripet, R. *see* Amai
Trochain, J. 209, 1874
Troche, A. 3788
Troedsson, T. 2978
Troëng, I. 2281
Trorey, L. G. 558
Trotter, C. L. 1412
Trouvelot, [D.], Grison, [P.], and Biliotti, [E.] 2474
Trowell, G. F. *see* Vyvyan, M. C.
True, R. P., Staley, J. M., Leach, J. G., Barnett, H. L., and Dorsey, C. K. 1318
— *see* McLaughlin, W. D.

Truman, R. 776
Tschamler, H. *see* Kratzl, K.
Tschermak, L. 154, 2977
Tsuji, M. *see* Fujibayashi, M.
Tucker, J. M. 93
Tuft, T. O. *see* Anderson, L. D.
Tufts, D., and Mety, B. 383
Tukey, H. B., Ticknor, R. L., Hinsvark, O. N., and Wittwer, S. H. 984
Tulstrup, N. P. 3279
Tuovinen, A. 1657, 2331–2
Turbott, E. G. 468
Turc, L. 2922
Turček, F. 2468
—, and Lehoťan, T. 2351
— *see* Patočka, J.
Turček, F. J. 2191, 2419, 2480
Turgeon, J. C. 1113
Turnbull, R. F. 1611, 2673
Turner, K. B. 3538
Turner, N., and Dean, A. R. 2698
— *see* Stevens, W. C.
Turrill, W. B., and Milne-Redhead, E. 112–3
Turunen, J. 3166
Tuset, R. 2939
Tutin, T. G. 2066
Tutsumoto, T. *see* Watanabe, H.
Tutumoto, T. *see* Ogura, T.
Tüxen, R. 2056
Tydén, H. 832
Tyler, J. S. 3361
Tymko, M. M. 3394

U Saw Tun Aung 3249
Uchida, K. *see* Kishimoto, S.
Ueda, K. 205
Uemura, S. 166, 3164
Ulrich, A. 61
Umbarje, S. R. 906
Umland, C. B. *see* Olive, C. L., Jr.
Unger, J. L. 1433
United Chemical and Metallurgical Works National Corporation 2772
Unrinin, G. *see* Kishimoto, S.
Unterberger, W. 1245, 1336
Unwin, P. T., and Bowling, P. J. 537
Urlings, J. *see* Gillet, A.
Urquhart, B. 1836
Uryšev, N. I. *see* Rotnickiĭ, M. A.
Usher, G. A. 3281
Uslu, M. 3456
Uspenskiĭ, V. A. 2282
Ustinovskaja, L. T. 1126

Vaartaja, O. 157, 241, 1310, 3475
Vachula, P. 1235
Vaclav, V. *see* Fice, K.
Vaidyanathan, C. S. *see* Giri, K. V.
Vaissière, J. de 908
Vajda, Z. 2394–5, 2464
Vakin, A. T., Černcov, I. A., and Akindinov, M. V. 2617
Valentin, B. 3825
Valeur, C. 1709
Vandenburg, D. O. 2442
Vangeluwe, J. *see* Fertig, S. N.
Vanselow, K. 2543
Varadaraj, S. K. *see* Ramaswamy, M. N.
Varićak, T., and Pejoski, B. 1773, 3994
Varier, N. S. *see* Nair, P. V.
Varley, G. C. 972
Varney, E. H., and Moore, J. D. 1327
Varossieau, W. W., and Kukachka, B. F. 2596
Varshney, I. P., and Farooq, M. O. 980
— *see* Farooq, M. O.
Vasconcellos, J. de Carvalho e, and Franco, J. do Amaral 133
Vasiljev, A. V. 2326
Vasiljev, I. V. 1018
Vasiljević, S. 2609, 2610
Vaughan, J. A., and Vinson, J. C. 3845
Vaux, C. H. 526
Veen, J. H. van der *see* Reinders-Gouwentak, C. A.
Veer, E. J. van A. de, and Vink, A. P. A. 1304
Velay, L. 1831
Venema, H. J. 2007, 2032
Venet, J. 733, 2926
Vennesland, B. 61
Vergneau 382
Verma, G. M. *see* Narayanamurti, D.
Verrall, A. F., and Mook, P. V. 780
Versteegh, F. 3224
Vesterinen, K. J. 2773
Vidal, P. *see* Métro, A.
Vidal-Hall, M. P. 2074
Vidme, T. *see* Bylterud, A.
Vieitez, E. 298
Vihrov, V. E. 637
—, and Perelygin, L. M. 3693
Vil'ke [Viljke], G. A. 3418–9
Villey, M. 775
Villikka, P. 386
Vincent, A. B. 2504
Vincent, G. 2165
Vink, A. P. A. *see* Veer, E. J. van A. de
Vinson, J. C. *see* Vaughan, J. A.
Virkami, K. C. *see* Bhat, R. V.
Virtanen, A. I., and Miettinen, J. K. 167
— *see* Miettinen, J. K.
Vité, J. P. 1452, 3517, 3893
Vité, P. *see* Rieck, W.
Vivani, W. 4050
Vlasov, G. D. 2722
Vloten, H. van 4050
Vodoz, J. *see* Kühne, H.
Voelkel, L. 1876
Vogel, P. de 304
— *see* Vreeling, L. H.
Vogt, G. B. 3897
Voigt, G. K. *see* Wilde, S. A.
Vojtuň, A. 3532
Volkert, E. 3388
Volkov, F. I. 2154
Vollgärtner, K. 3773
Volodenkov, F. I. 2333, 2336
Volpini, C. 314
Volz, G. 3695
Vorak 1395
Voroncov, P. S. *see* Čugunov, I. N.
Voss, K. 2879
Voûte, A. D. 486
Vreeling, L. H., Vogel, P. de, and Ravensberg, K. 301
Vujičić, L. 1467
Vulterin, Z. 2350
Vuokila, Y. 2514
Vyskot, M. 2033
Vyvyan, M. C., and Trowell, G. F. 3030

Wacek, A., and Hlava, J. 1518
Wada, Y. *see* Kato, S.
Wadsworth, F. H. 899, 2553
Wagner, H. M. *see* Musgrave, O. C.
Wagner, K. [A.] *see* Kurz, H.
Waheed Khan, M. A. 3203
Wahlenberg, W. G. 1205, 2089
Wakefield, W. E. 700
Wakeley, P. C. 3061
Waksman, S. A. 1892
Waldburg zu Wolfegg-Waldsee, M. von 4017
Wałek-Czernecka, A. 3691
Walker, A. 1489
Walker, E. H. 3084
Wallace, A. F., *et al.* 580
Wallace, H. R. 3194
Wallis, G. W. 3480
Walter, J. M., Rex, E. G., and Schreiber, R. 445
Walters, C. S. 583
— *see* Meek, W. L.
Walters, J. 3530
Walton, A. B., Barnard, R. C., and Wyatt-Smith, J. 1092
Wampner, H. L. 2704
Wanaraks, P. A. 1569
Wangaard, F. F. 634, 2697, 3800
—, and Muschler, A. F. 602
Warcup, J. H. 2169
Ward, W. C. 1442
— *see* Entrican, A. R.
Ward, W. C. 610
Wardi 2940
Wardrop, A. B. 625
—, and Dadswell, H. E. 623–4, 2612
— *see* Bisset, I. J. W.
Wardrop, T. N., and Duff, C. E. 1410
Wareing, P. F. 2138
Warhadpande, U. R. *see* Mene, P.S.
Warrack, G. 331
Warwick, A. J. *see* King, F. E.
Wasjutin, C. 3160
Watanabe, C. *see* Nakatsuka. T.
Watanabe, H., Aso, K., and Tutsumoto, T. 2623
Watanabe, M. *see* Chiba, S.
Watanabe, S. 2149
Waterer, R. R. 1819
Waterman, A. M., and Aldrich, K. F. 1160
Watkins, J. C. *see* Anstee, J. R.
Watson, A. J., and Cohen, W. E. 836
Watson, C. J. J. 721
Watson, W. 406
Watt, A. S. 972
Watt, R. F. 3619
Weatherell, J. 2214
Weaver, H. 1297
Weaver, N. 477
Webb, F. E. 3536
Webb, L. J. 3925, 3982
Webb, W. E. *see* Fisher, R. C.
Weber, A. *see* Zehnder, J.
Webster, C. T. *see* Lawson, D. I.
Wechselberger 2184
Weck, J. 1420, 1421, 2198, 2953
—, and Kollmann, F. 1841
Weeks, M. *see* Finholt, R. W.
Wegener, K. 1823

Weidner, H. 1366, 2446, 3904
Weitzman, S. 2273
—, and Holcomb, C. J. 3579
—, and Trimble, G. R., Jr. 40
Welander, E 1437
— *see* Bäckström, H.
Welch, A. R. 712, 713
Wellensiek, S. J. 3327
Wellenstein, G. 3519
Wellington, W. G. 491
Wells, J. S. 1157
Wells, T., and McWilliams, H. G. 280
Wellwood, R. W. 1506
Wendel 1138
Wendelberger, G. 2054
Wender, S. H. *see* Ice, C. H.
— *see* Gage, T. B.
Wendover, R. F. 1903
Wenger, K. F. 2027
Went, F. W., Juhren, G., and Juhren, M. C. 1053
Wenzl, H. 1213
Werner, A. E. A. *see* Mills, J. S.
West, A. S. 1381
West-Nielsen, G. 3586
Westhoff, V. 2059
Westveld, M. 543, 3225, 3623
Westveld, R. H. 2084
Wethern J. D. 1529
Wettstein, O. 3554
Wettstein, W. von 992, 221, 3011
Wheeler, L. C. 461
Wheeler, W. H. *see* Hubert, F. P.
Whitaker, J. D. 2715
White, D. E., and Zampatti, L. S. 3971
— *see* Anstee, J. R.
— *see* Blumann, A.
White, E. E. 540
White, E. V. 1784
White, I., and Wolf F. T. 71
White, L. T. 3479
White, M. G. 2826
Whiteside, J. M. 2457
Whitney, R. D. 2383
—, and Groenewoud, H. van 2343
Whitney, R. D. *see* Riley, C. G.
Whyte, R. O. 317
Wichmann, H. E. 2489
Wicht, C. L. 935, 4047
Wicklund, H. T. 1296
Wiehe, P. O. 3483
Wieringa, K. T. *see* Smit, J.
Wiesmann, R. *see* Gasser, R.
Wigg, L. T. 1090
Wikmanshytte Bruks A.-B. 3939–40
Wikstrom, J. H. 3597
Wilcox, J. A. *see* Connola, D. P.
Wild, H. 2017
Wilde, M. H., and Eames, A. J. 122
Wilde, S. A., and Voigt, G. K. 395
Wildman, S. 61
Wilhelmi, T. 2507
Wilkins, V. E. 1351
Wilkinson, R. E. 1328
Wilks, K. 3978
Willan, R. G. 3430
Willard, C. J. 406
Willems, J. *see* Hamann, K.
Williams, E. J. 601
Williams, E. T. 4044
Williamson, M. J. 2227
— *see* Ford, H. F.
Willis, J. L. *see* Penfold, A. R.
Wilner, J. 2006, 3150
Wilson, A. K. 2095
— *see* Curtis, J. D.
Wilson, C. A. *see* Rathert, W. H.
Wilson, C. C. 3460
Wilson, G. M. 327
Wilson, H. H. *see* Reid, W.
Wilson, H. L., and Berard, E. V. 2046
Wilson, L. *see* Rathert, W. H.
Wilson, M. E. 3718
Wilson, T. 674
Wind, R. 39
Winer, H. I. *see* Mergen, F.
Winnlert, E. *see* Backman, O.
Winroth, C. 925
Wirth, M. R. 2792
Wise, L. E., Rittenhouse, R. C., Dickey, E. E., Olson, O. H., and Garcia, C. 2635
— *see* Jones, J. K. N.
— *see* Thompson, J. O.
Wittich, W. 1882, 3350
Wittmann, W. *see* Kisser, J.
Wittwer, S. H. *see* Tukey, H. B.
Włoczewski, T. 1884
Wnuk, M. 2680
Wobst, A. 574
Wohlfarth, E. 2082
Wolcott, G. N. 3905
Wolf, F. *see* Knapp, R.
Wolf, F. T. *see* White, I.
Wolfe, L. P., Jr., and Dunn, S. 2758
— *see* Dunn, S.
Wong, H. R. 1917
Wood, H. E., *et al.* 406
Wood, L. W. 1593
Woodruff, N. P., and Zingg, A. W. 3391
Woodrum, H. G. 2177
Woods, F. W. 3484
Woods, J. B., and Bever, D. N. 2189
Woods, J. B., Jr., and Hann, J. H. 1168
Woods, R. P. 739, 2583, 2750, 2751
Worley, D., and Meyer, H. A. 562
Worley, D. P. *see* Bramble, W. C.
Wörner, G. *see* Jayme, G.
Worrell, A. C. 3648
Worth, H. E. *see* Patronsky, L. A.
Worthington, F. P., and Shaw, E. W.
Worthington, N. P., and Isaac, L. A. 1203
Woudt, B. D. Van't 466
Wraber, M. 3280
— *see* Cividini, R.
Wright, E., and Graham, D. P. 1388
Wright, J. W. 2018
Wright, W. F. 397
Wultsch, F., and Salzer, H. 2665
Wyatt, W. W. 924
Wyatt-Smith, J. 110
— *see* Walton, A. B.
Wycoff, H. B. 2167–8
Wyk, J. H. van 1565
Wykes, G. R. 3038
Wyman, D. 125
Wyrzykowski, W. 762
Wysong, N. 1281, 1286
Yakeyama, Y. 2624
Yamada, T. *see* Kadita, S.
Yamahata, K. 3309
Yamamoto, T. 2844
— *see* Konishi, Y.
Yamawaki, I. *see* Hyodo, M.
Yamawaki, S. *see* Fujibayashi, M.
Yamazaki, T. 187
Yanagawa, R. *see* Iwade, I.
— *see* Shibamoto, T.
Yanagisawa, T. 1667
Yang, P.-L. *see* Liu, S.-H.
Yatoh, K. 2068
Yavorsky, J. M. 693, 2693
Yocom, H. A. 337
Yoder, R. A. 2572
Yonezaka, Y., Kikuchi, F., and Inomata, T. 1705
Yops, C. J. *see* Connola, D. P.
Yoshida, M. *see* Toyama, S.
Yoshioka, J. *see* Maeda, T.
Yoshioka, K. 2067
Young, D. W. *see* Fisher, C. E.
Young, H. E. 633, 1427
—, and Kramer, P. J. 341
Youngberg, C. T. 2141, 3468
Youngquist, W. G. 3823

Zabel, R. A. *see* Scheffer, T. C.
Zabko-Potopowicz, A. 569
Zaĭcev, B. D. 19
Zaĭceva, A. F., and Nikitin, N. I. 1722
Zalewska, Z. 3686
Zampatti, L. S. *see* White, D. E.
Zaręba, R. 1873
Zarubin, A. F. *see* Ozol, A. M.
Zasada, Z. A. 1454, 2088
Żbikowski, T. *see* Samorzewski, J.
Zdanowicz, B. *see* Koehler, W.
Zehetmayr, J. W. L. 1186, 2200
— *see* Brown, J. M. B.
Zehnder, J., Soom, E., and Auer, C. 373
—, Weber, A., and Linder, A. 374
Zeidler, H. *see* Schmid, H.
Zeljdić, P. N. *see* Cehanovskiĭ, A. I.
Zenaty, J. G. *see* Cermak, F.
Zenczak, P. 3744
Zentmyer, G. A., Baker, K. F., and Thorn, W. A. 1155
Zerbas, P. 1224
Zieger, E. *see* Herfeld, H.
Ziller, W. G. *see* Foster, R. E.
Zimmerle, H. 1397, 2541
Zimmerman, A. H., and Potts, S. M. 2515
Zingg, A. W. *see* Woodruff, N. P.
Zinnai, I. 3059
Zinno, Y. *see* Nohara, Y.
Žmur, D. G. *see* Ivanov, L. A.
Zobel, B. 90
Zonn, S. V., and Mina, V. N. 38
Zonnefeld, J. I. S. 3631
Zozulin, G. M. 186
Zubović, J. 2566
Zuckerman, B. M. *see* Curl, E. A.
— *see* Stessel, G. J.
Žukov, G. A. 1267
Žuravlev, L. I. 2325
Zvorykina, K. V. *see* Elagin, I. N.
Zycha, H. 441, 1390

SPECIES INDEX

Abies spp. 1050
A. alba: competition from Spruce 3169; disease 106; drought, effects of 2340; in—(Croatia) 2065, (Devon) 252, (Hungary) 3252; ecology 3237; increment and yield 1098, 2542, 3609; insects 1355, 2447, **2826**; mistletoe damage 1306; mixtures 228, 1204, 3238; needle weight 177; races 1951; range 1033; rotation 565; seed extraction 266; soil under 3156–7; stem form 1397; succession 189, 3625; volume tables 533–4; **wood:** bending strength **3725**; ignition properties **3707**; natural durability **2809**; pulp **2858**
A. amabilis 431
A. balsamea: competition from bracken 3170; ecology 3215; epicormics 3187; insects 3537–8; logging damage 2504; natural regeneration 2088; rots 2383, 3478; seed collection 2133; seedling development 2028–9; site quality 2528; **wood:** essential oil **2914**; floatability **3448**; protection of logs from borers **3899**
A. borisii-regis 2202
A. bornmuelleriana 46, 3343
A. cephalonica 2202
A. concolor: bark extractives **3966**; epicormics 2238, 3187; photosynthesis 1930; trials in France 253; volume table 1414
A. firma 1001, 3317, 3539
A. grandis 160, 181, 250, 1123, 1124
A. lasiocarpa: decay 432, 1280; ecology 208, 2078, 3226; increment 2532; silviculture 3226
A. magnifica 1414
A. mariesii 2384
A. mayriana: damping off 1312; frost crack 1282–3; range 3147; **wood:** essential oil **2915**; protection of logs **1667**; pulping **2864**
A. nobilis (*procera*) 250, 1123, 1124
A. nordmanniana 203, 1163, 2116
A. pinsapo 2202
A. sachalinensis 986, 1001, **2915**
A. sachalinensis var. *mayriana* see *A. mayriana*
A. sibirica 3028
A. sikokiana 1001
A. spectabilis 2104
A. veitchii 2384, 3085
Abietineae 3179
Acacia spp. **1498**, **1744**, 3057, 3263
A. arabica 499, 2478, **1745**, 2015, 2206
A. auriculiformis 1190
A. campylacantha 2015
A. catechu 277, **855**, 1029, 3250
A. cyanophylla 3014–5
A. dealbata 62, **2634**, **3756**
A. decurrens 1190, 1199, 2219
A. decurrens var. *mollissima:* fertilizer treatment 3354; hybrid 3057; in Morocco 1223; seed treatment 2150; tannin content of bark from—(Argentina) **3974**, (Japan) **1746**
Acacia farnesiana 3057
A. giraffae 3080
A. heteracantha 2362
A. intertexta 419
A. karoo 1971
A. leucophloea 58
A. longifolia 979, 3014
A. macrothyrsa 1007
A. melanoxylon **2634**
A. mellifera 3057
A. microstachya **3827**
A. modesta 3057
A. mollissima see *A. decurrens* var. *mollissima*
A. nilotica **1745**
A. palmerstonii **3827**
A. pendula 498
A. raddiana 2160
A. saligna 49, 3014
A. senegal 3057
A. seyal 242, 2015, **2831**
A. sieberiana 2015
A. sophorae 3015
A. spirocarpa 2160
Acalypha 1020
Acer spp. 1015, 1934, 3035, **3701**, **3979**
A. campestre 3183, 3310
A. glabrum 2253
A. monspessulanum 2063–4
A. negundo: chemical control 406; desiccation and winter injury 3150; insect pests of seeds 967; sowing 3310; transpiration 66; virus 1328; wood properties **2615**
A. nigrum 3066
A. palmatum 297, **1484**, **1511**
A. pensylvanicum 3045
A. pictum **1511**
A. platanoides: antibiotic substances in fruit **2898**, **3980**; buds 1929, 3045; chemical composition 1922; in Croatia 2065; in Finland 3143; seedling mortality 3183; soil pH 282; sowing 3310; transpiration 66
A. pseudoplatanus: bark thickness 2510; disease 3489–90; fodder value of foliage **1739–40**; in Croatia 2065; seed dispersal 1048; seedling roots 3184; soil pH 282; sowing 3310; **wood:** anatomy **2610**; annual-ring formation 1055; electrical properties **1503**
A. rubrum: barking **365**, **3422**; chemical control 406–7, 1208; natural regeneration 244; seasonal growth 1430; seed germination 3181; thinning 3374; volume table 3589
A. saccharinum 95, 561, 3045, 3167, 3589
A. saccharum: buds 3045; decay 436; distribution 3066; in Germany 2115; in Jugoslavia 2010; leachates from leaves 1880; leaf variation 1016; natural regeneration 244; sap flow 64, 3408; volume table 3589; **wood:** anatomy **614**; chemistry **653**; flooring **1595**; gluing **2735**; moisture content **3711**; veneer **2852**
Acer spicatum 406, 2428, 3045
A. tataricum 66
Achras zapota **1784**, **4004–5**
Acronychia baueri **3986**
Adansonia 3102
A. digitata 3080, **3988**
Adenosma capitata **3999**
Adinandra spp. nov. 3129
Aegiphila purpurascens sp. nov. 3133
Aegle marmelos **1761**
Aesculus hippocastanum 414, 1929, **3990**
A. indica 1317
A. turbinata **2904**
Aextoxicon punctatum 247, **757**, **1484**, **3708**
Afrormosia sp. **737**, **2751**
A. angolensis 1971
A. elata **1655**, **2584**
Afzelia spp. **1487**
A. bijuga see *Intsia bijuga*
A. quanzensis 114
Agathis spp. **3685**
A. alba 121, 3044
A. australis **614**, 943, 2986
A. macrophylla **3827**
A. robusta 121
A. vitiensis 121
Ailanthus altissima (*glandulosa*) 2010, 2203, 2245, **2609**, **2615**
A. malabarica **872**
Albizzia pp. 138, **1487**
A. coriaria **2636**
A. ealaensis 1209
A. falcata 360, 2125, 2450, 3262, **3733**
A. ferruginea 1209
A. gummifera 1971, 1986
A. lebbek 980, **3684**, **4002**
A. lophantha 3015
A. procera 2400, **3906**
A. aff. *sassa* 1209
A. zygia **3721**
Alchornea cordifolia 1189
Aleurites fordii 3309
A. montana 1019, 3261, 3483
Alexa leiopetala **707**
Allanblackia floribunda **2633**
Alnus **618**
A. spp. 312, 1951, 3165, **3707**
A. crispa **3979**
A. firma 166, **619**
A. glutinosa: afforestation of dunes 315; chlorophyll content of buds 1929; fertilizer treatment 1174, 2172, 3552; fodder value of foliage **1739**; root nodules 167, 2014; seed testing 3294; soil improver 1198; tannin content of leaves **1742**; volume tables 533; **wood:** anatomy **2599**; annual-ring formation 1055; bark chemistry **3970**

Alnus hakkodensis sp. nov. 3085
A. incana: chemical control 406, 408, 2176; N metabolism 3165; photoperiodism 157; root nodules 167, 3166; tannin content of cones **1742**
A. japonica 166
A. maximowiczii **619**
A. pendula **619**
A. rubra **1707**, **1742**, 3381
A. rugosa 3181
A. sieboldiana **619**
Alstonia angustifolia **3674**
A. angustiloba 3407, **3674**
A. boonei (*congensis*) **2633**, **2636**
A. scholaris **4006**
A. spathulata 3407, **3674**
A. verticillosa 57
Amburana sp. **1485**
Amelanchier alnifolia 2253
Amomyrtus luma **757**
Amoora wallichii 2211
Amorpha fruticosa 2179, 2378
Anacardium excelsum **3675**
A. occidentale 323
Angophora costata 3118
A. intermedia 3118
Aniba ovalifolia **607**
Anisophyllea 3121
A. guianensis sp. nov. 1024
Anisoptera sp. **2584**
Annona squamosa 1030
Anogeissus schimperi **877**
Anonidium mannii 946
Antiaris africana **1487**
A. welwitschii **1655**
Antidesma spp. nov. 1020
A. pulvinatum **2635**
Antirrhoea guianensis sp. nov. 115
Antrocaryon micraster 173, 1209, **2636**
Apocynaceae 3099
Aquillaria agallocha **2882**
Araucaria 74
A. spp. **1639**, **3685**
A. angustifolia: range and site requirements 1034; **wood:** grading **3928**; properties **1488**, **2584**, **2589**, **3703**; pulping **1702**; seasoning **805**; strength **2628**; structure **3684**
A. araucana 2004
A. bidwillii 122, **3827**
A. cunninghamii 3174, **3827**
A. klinkii **3827**
Araucariaceae 3042, **3685**
Arbutus menziesii **1753**
Arceuthobium americanum 3471–2
A. pusillum 2374
Arthrophyllum diversifolium 3379
Artocarpus integrifolius **3684**
Arundinaria alpina 159, 3003
Arundo donax 1228
Aspidosperma spp. **1640**, **3959–60**
A. pirifolium 1230
A. polyneuron **2599**
A. spegazzinii sp. nov. 129
Astronium balansae **3958–60**
Atherosperma moschatum **2634**
Athrotaxis selaginoides **2634**, **3827**
Atkinsonia ligustrina 419
Aucoumea klaineana 1091, **1681**, **1692**, **3684**
Autranella congolensis 173
Avicennia alba 240
Avicennia marina 240
A. officinalis **3964**
Azadirachta indica see *Melia azadirachta*

Baikiaea plurijuga **1531**, **3763**
Balanites aegyptiaca 2160
B. roxburghii 983
Balanocarpus heimii **3673**
Balfourodendron riedelianum 3087
Bambusa balcooa **1508**
B. hoffii **2859**
B. longispiculata 162
B. nutans **1508**
B. polymorpha 1043
B. tulda **1508**
B. vulgaris 2269, **2859**
Bambuseae 2269, 2270
Bassia latifolia **2918**
B. longifolia **2918**
Bauhinia 1942
B. monandra 277
B. multinervia 323
B. purpurea 277
Beilschmiedia spp. nov. 135
B. corbisieri 1209
B. oblongifolia **605**
B. tawa **2781**
Berlinia spp. **695**. **1640**
B. bifoliata **1493**
Berrya cordifolia 3138
Betula spp. **618**, 1018, 1934, 3482, **3979**
B. alba s.l.: chemical control 413, 1301; cytology 3054; elk damage 464; flowering cycle 3172; fodder value of foliage **1741**; in N. Finland 230; insect damage to roots 515; nursery practice 3306; on strip-mined land in Denmark 312; response to drainage 1197; root sap 63; seedling identification 130; soils under 350, 1198, 2009; transpiration 3006; vegetative propagation 3327; volume tables 533; **wood:** floating **2331**; hydrolysis **1721**; plywood and veneer **1585**; pulp and pulping **832**, **1658**, **1704**, **1710**, **2865**, **3934**; resistance to comminution **2696**; seasoning **1676**
B. andrewsii 1017
B. costata **2797**
B. ermani 2117, **2797**
B. lutea: butt rot 2392; die-back 2506; in Germany 2115; movement of radioactive isotopes in 3033; natural regeneration 244; **wood:** barking **3422**; chemistry **653**; flooring **2741**; moisture content **3711**
B. maximowicziana 2117, **2797–8**
B. nigra 3181
B. papyrifera 945, 2115, 2428, 2528
B. pendula see *B. verrucosa*
B. platyphylla **2797**
B. populifolia 1880
B. pubescens: natural regeneration on moors 2103; optimum soil pH 282; photoperiodism 157; silvicultural requirements in N. Sweden 231; vegetative propagation 301; wood chemistry **3751**
B. reticulata 978
Betula verrucosa (*pendula*)*:* culture of cambium 1957, 3071; chemical constituents 1922, 1929, 3028; chemical control 2363; damping off 1310; fodder value of foliage **1739**; phenology 1873; photoperiodism 157; sap 85; silvicultural requirements in N. Sweden 231; soil pH 282; transpiration 66–7; vegetative propagation 301, 2179; **wood:** annual-ring formation 1055; chemistry **3751–2**; natural durability **2809**
Betulaceae **618**
Bignoniaceae 3101
Bixa orellana 1189
Bombax buonopozense **2698**
B. flammeum **2636**
B. malabaricum **768**, 2206, **3901–2**, **3906**
Bosqueia angolensis **2636**
Boswellia serrata **3995**
Bowdichia brasiliensis **3736**
Brachystegia spp. **1487**, **1640**, **1751**
B. cynometroides **1493**
B. hockii **1734**
B. longifolia **1703**
B. nzang **1493**
B. zenkeri **1493**
Bridelia micrantha 1190
Bruguiera cylindrica 3616
Bumelia **2604**
Burckella 3126
Burkea africana 1007
Burseraceae 3103
Buxus sempervirens 1158, **2599**, 3512, **3830**

Cabralea oblongifolia **3703**
Caesalpinia coriaria 87
C. echinata 3087
C. granadillo **2599**
C. melanocarpa **3958–60**
C. peltophoroides 3087
C. sappan 87
Caesalpiniaceae 137, 1985
Callicarpa mollis 3086
Calligonum comosum 2160
Callisthene 1996
Callitris calcarata 3269
C. glauca 3242, 3298
C. propinqua 32
C. robusta 3269
Calluna vulgaris 972, 2214, 2996
Calophyllum antillanum 259, 333
C. brasiliense **2599**
C. inophyllum 1190, **1755**
Calyptosepalum pacificum sp. nov. 1994
Campnosperma spp. **3674**
Canarium schweinfurthii: afforestation of savanna 1189; germination 173; **wood:** chemistry **2636**; properties **1486**, **2590**; working qualities **2633**
Cantleya corniculata **3674**
Caragana arborescens 97, 3150,3153
Carapa spp. **2594**
C. grandiflora **605**
C. guianensis **607**
C. moluccensis 240
C. obovata 240
C. procera 1209
Cardwellia sublimis **3925**
Cariniana sp. **3684**

Cariniana pyriformis **3675–6**
Carpinus **618**
C. betulus: chemical composition 1922, 1929; chemical control 2363; disease 107, 2404; fertilizer treatment 1174; fodder value of foliage **1739**; soil improver 1198; succession 2097; Tea planted under 3410; **wood:** anatomy **1491**; chemistry **668**; firewood **1677**; ignition properties **3707**; natural durability **2809**
C. caucasica 203
C. erosa 3085
C. orientalis 204, 2061, 2063
Carya sp. **3684**
C. tomentosa 1430
Cassia abbreviata 1007
C. bacillaris 277
C. fistula 277, **855**
C. siamea 1190, 2220
Cassipourea 143
Cassytha filiformis 415
Castanea 3105
C. spp. 2432
C. crenata 1938, 2403, 3147, 3258
C. dentata 1430, 2043, 3484
C. mollissima 2403
C. mollissima × *C. dentata* 450
C. sativa: conference on 4049; culture of cambium 3071; diseases 437, 446–51, 2388–9, 2403, 3487; fungus infection of nuts 422, 3474; in Caucasia 203; pendulous form 2032; seed storage 2136; tannins 2403; **wood:** annual-ring formation 182; assortments 3401; distillation of chips after tannin extraction **856**; electrical properties **1503**; firewood **1677**
C. sativa × *C. crenata* 298
Castanopsis spp. 3379
Castilloa elastica **3675**
Casuarina spp. 323, 2390
C. equisetifolia: embryology 3041; in—(Puerto Rico) 260, (Zanzibar) 1190; increment 549; insects 2450, 3515; seedbed treatment 291
C. junghuhniana 3261
C. luehmannii 3242
C. quadrivalvis 549, **2634**
C. stricta 549
Catostemma commune **707**, **1487**
Cavanillesia platanifolia **1503**, **2698**
Ceanothus sanguineus 2253
Cecropia peltata 335, 338
Cedrela spp. **1488**, **3675**
C. mexicana 259, **806**
C. odorata **607**, **3684**, p. 124
Cedrus spp. 1050
C. atlantica 1948, 2202–3
C. deodara **1601**, 2202–3
C. libani 2202, 3533
Ceiba pentandra 1190, **1552**, **2590**, **2633**
Celtis 3131–2
C. sp. **1487**, **2633**
C. australis 2203
Centrolobium spp. **3675**
Cephalotaxaceae 3042
Ceratonia siliqua 2037, 2258
Ceratopetalum apetalum **1490–1**, 2081, **2824**
Cerbera manghas **3674**
Cercidiphyllum japonicum **1511**, **3760**
Cercidium **3687**
Cercis 2041
Ceriops roxburghiana 240
Chaetacme spp. 3131
Chamaecyparis spp. **736**
C. formosensis 547, **2585**
C. lawsoniana: canker resistance 439; checked by heather 2214; direct sowing 1168, 2190; in—(France) 253, (Germany) 2116, (Great Britain) 1123; insects 1374; vegetative propagation 310
C. nootkatensis 1123, **1533**
C. obtusa: damping off 1312; seasonal mineral contents 1931; water culture of seedlings 62; water relations in windbreaks 2250; **wood:** anatomy **2611**; boring tests **2811**; decay **2815**; ecological studies on timber quality 2005, **2657**; fibreboard **2869**; moisture-proofing **1645**; natural durability **2656**; permeability **2626**; plywood **2691**, **2797**; stump extraction **1240**; swelling **3714**
C. obtusa var. *takeuchii* 3085
C. pisifera 3317
C. thyoides 2385
Chikrassia tabularis **2599**
Chilopsis linearis 3153
Chlorophora excelsa: afforestation of savanna 1189–90; girdling 1209; grass competition 1193; **wood:** anatomy **614**; coffin boards **1563**; natural durability **1655**; properties **613**, **1486**; ships decking **739**, **2751**
C. tinctoria **3675**
Chrysophyllum **2604**
C. africanum **1655**
C. albidum **3721**
Chusquea quila 247
Cinnamomum camphora: essential oil **2916**; respiration rate 1924; insect 2450; seed treatment 21–49; thinning 332; water culture 1924–5
Cistanthera 3130
C. papaverifera **695**, **1487**
Cladrastis shikokiana **1495**
Cleistanthus collinus **1743**
Cocos nucifera 1937, **2614**
Coffea canephora 1927
Cola griseiflora 173
Combretodendron africanum 1209, **1487**, **2633**
Combretum gueinzii 114
C. microphyllum 114
C. parvifolium 1302
Connarus poilanei sp. nov. 131
Copaifera officinalis **3675**
C. (*Guibourtia*) *coleosperma* 1007
Cordia alliodora 259, **2592**, **2635**, **3675**
C. fragrantissima **2599**
C. goeldiana **720**, **3684**
Cornus florida 1052, 1430
C. mas 1922, 2257, **2609**
C. stolonifera 2253, 2428
Corylus **618**
C. spp. 406, 2016, 2203
C. avellana: disease 107; in Crimea 2257; litter decomposition 2983; phenology 1873; pollen composition 977; transpiration 66; wood anatomy **2609**
Coryphadenia gen. nov. 3115
Cotoneaster melanocarpa × *Sorbus sibirica* 3070
Couratari pulchra **2635**
Crataegus spp. 2365
C. azarolus 2037
C. oxyacantha 107
Croton phebalioides **3756**
Cryptocarya bowiei **3983**
C. moschata 3087
Cryptolepis buchananii **4006**
Cryptomeria 3029
C. japonica: breeding 1945, 3275; damping off 1312; increment 548; needle blight 425–6; races 3274; response to fertilizers 3303; seasonal mineral contents 1931; silviculture 2083; soil microflora 1894; vegetative propagation 985, 2180, 3318–9; water culture 1925; water uptake by cuttings 985; **wood:** boring tests **2811**; compreg plywood **2797**; cork substitute **1610**; fibreboard **1719**; log scaling 2524; permeability **2624**, **2626**
Cunninghamia lanceolata (*sinensis*) 547, **2585**
Cupania vernalis **3703**
Cupressaceae 1975, 3042
Cupressales **2647**
Cupressus spp. **1503**, 2142, 3267, 3553
C. arizonica 439–40, 3343
C. benthami 440
C. lawsoniana see *Chamaecyparis lawsoniana*
C. lusitanica 440, 3269
C. macrocarpa: canker 439–40; heart rots 435; in Great Britain 1123; morphology 3043; rainfall interception 3003; water consumption 159
C. sempervirens: afforestation of Karst 2202–3; cankers 439; essential oil **2916**; on barren clays 1183; sowing season 284
C. sempervirens var. *horizontalis* 3343
C. torulosa 440
Cuscuta reflexa 416–7
Cussonia natalensis 1007
Cybistax antisyphilitica 3087
C. donnell-smithii see *Tabebuia d.*
Cycadaceae 3042
Cycas 3029
Cyclobium clausseni **1496**
Cyrtandra 1983
Cytisus prolifera 2243
C. scoparius 312, 2363

Dacrydium cupressinum **610**, **2649**
D. franklinii **2634**, **3827**
D. taxoides 77
Dacryodes excelsa 552
Dalbergia frutescens **3688**
D. latifolia **1491**
D. sissoo 2206, 3576, **3906**
Daniella spp. 1487
D. fosteri **2584**
Daphnandra spp. **3984–5**
D. micrantha **3827**, **3985**

Daphnandra tenuipes **3985**
Delaportea spp. nov. 138
Dendrocalamus longispathus **626**
D. strictus **626**, 1044, **1508**
Dialium divaricatum **3675**
D. excelsum 1209
Dichroa febrifuga 3128
Dichrostachys glomerata 1302, 2362
Dicorynia paraënsis **1661**, **2635**
Didelotia sp. **1493**
Dillenia 3104, **3674**
Diospyros virginiana 406, 1430
Diplorrhynchus mossambicensis 1007
Dipterocarpaceae spp. **1595**, 2100
Dipterocarpus alatus **1775**
D. turbinatus **614**
D. zeylanicus p. 124
Distemonanthus benthamianus **1487**, **2751**
Distylium racemosum 1065
Dombeya mastersii 987
D. spectabilis 987
Drimys winteri **757**
Dryobalanops aromatica **3684**
Drypetes fanshawei sp. nov. 115
D. gossweileri 173
Duboisia spp. 99, **2903**
D. myoporoides **2903**
Duguetia decurrens sp. nov. 115
Durio oxleyanus **604**
Dyera costulata **608**, **3674**, **3827**
D. lowii **3674**

Edgeworthia papyrifera 3320–3
Elaeagnus 1981
E. angustifolia 56, 2179, 3152
Elaeis guineensis 1927
E. melanococca 2259
Elaeocarpus 132
Enantia lebrunii **1655**
Endiandra palmerstonii **3828**
Entada spp. nov. 138
Entandrophragma spp. **1483**, **1655**
E. angolense 1189
E. cylindricum 1193, **1580**
E. ekebergioides **1781**
E. utile **1486–7**
Eperua spp. **607**, **726**, **1503**, **1716**, p. 375
Ephedra distachya **3987**
Ephedraceae 3042
Erica arborea **1602**
Erythrina suberosa **1610**
Erythrophleum sp. **1531**
E. guineense 1209, **1655**, **2633**
Eschweilera sagotiana **2635**
Eucalyptus: French studies on 142, 1021; growth and regeneration 1041; heartwood formation **1498**; hybrids 98, 3064, 3069; key to fruits 3116; species formation 98
Eucalyptus spp.: chemical constituents of leaves **1780**; firebreaks 1130; insects 506, 1375, 3552, 3556, 3575; mistletoe infestation 418; of Mt. Wilson district 3118; plantations in—(Colombia) 2127, (Congo) 3267, (Indonesia) 3262, (Malaya) 3262, (New Zealand) 3266, (Portugal) 2121, (Siam) 3261, (South Africa) 1199, (Uganda) 1216, (Venezuela) 323, (Zanzibar) 1190; seed collection 3298; soil degradation 3160; **wood:** brittle heart **2850**; chemistry **3756**; pulping **1702**, **1706**; reaction wood **2850**; uses **3679**
Eucalyptus alba 2125, 3262
E. albens 1129
E. amygdalina **837**
E. astringens 1990
E. baxteri **2892**
E. botryoides 1128
E. calophylla **761**, **1786**, **3971**
E. campaspe 1989
E. citriodora 1129, **2916**, 3063
E. cladocalyx 1128
E. consideniana **2892**
E. corymbosa **1786**
E. crebra **793**, 3242, **3677–8**, **3793**
E. dalrympleana 257
E. deglupta 2125, 3262, 2450
E. diversicolor **760**, **1503**, **3684**
E. dives **2916**
E. erythrocorys **611**
E. erythronema 3117
E. eudesmioides **3997**
E. gigantea 257, 3257
E. globulus: chemical composition of twigs 47; disease of seedlings 3476; essential oil **2916**; in—(France) 1127, (Great Britain) 3257; leaf morphology 990; wood anatomy **1491**; yield in Spain 2120
E. gomphocephala 306, **611**, 1128
E. grandis **793**
E. kirtoniana 1128
E. macarthuri **2916**
E. maculata 1129, **2592**
E. maideni 1129, **2916**
E. marginata **742**, **761**, **1785**, **3713**
E. micrantha **793**
E. obliqua **837**, **2892**
E. occidentalis 1990
E. oranensis 1129
E. paniculata **793**, 3547
E. pilularis **612**, **3676**
E. polyanthemos 990
E. propinqua 1128
E. pyriformis 1989
E. regnans: **wood:** chemistry **3738**, **3755**; hemicelluloses **665**; hydrolysis **664**; lignin **3745**; pulping **834–7**; seasoning **2839**; variation in density **2660**
E. robusta: plantations in Morocco 1128; trials in—(Malaya) 307, 2125, 3262, (Puerto Rico) 259; wood preservation **758**
E. rostrata: growth and yield in—(Anatolia) **880**, 1129, (Italy) 3614; leaf morphology 990; plantation technique in Morocco 306, 1128; wood properties **3805**
E. rudis 1128
E. saligna 1129, p. 242
E. salmonophloia 1022
E. salubris 1989
E. sideroxylon **864**, 1128, 3139
E. sieberiana 257, **837**, **2892**
E. smithii 1129, **2916**
E. stoatei 1022
E. tereticornis **793**
E. torquata 3117
E. trabuti 1129
E. viminalis **837**, 990, 3257
E. woodwardii 3117
E. yangoura **2892**
Eucommia ulmoides **878**
Eucryphia cordifolia 247, **757**
Eugenia sp. **3703**
E. caryophyllata 438, 2401
E. jambolana 417, 1190
E. jambos 248, 323
E. luehmannii 47
Euonymus europaeus 66, 2179, **3989**
E. japonicus 2179
E. verrucosus 2021, 2268
Euphorbia nivulia **1610**
Euroschinus falcatus **3756**
Eurya pseudocerasifera sp. nov. 3129
Eusideroxylon zwageri **1661**, 2125, 2212, 3262
Euterpe globosa 335, 552
Euxylophora paraensis **3734**
Evodia xanthoxyloides **1764–5**

Fagara lemairei 1209
Fagus spp. 26
F. crenata: range 3147; **wood:** anatomy **1495**, **2605**; bending **1559**; boring tests **2811**; compreg **2797**; decay **2815**, **2818**; permeability **2626**, sleepers **3721**
F. grandifolia: distribution in Indiana 1074; microclimate 9, 10; seasonal growth 1430; volume table 3589; wind resistance 3217; **wood:** anatomy **2605**; barking **3422**; bending **3800**; chemistry **653**, **3737**; moisture content **3711**; properties **2616**; storage of logs **3921**; utilization **3669**
F. japonica **1495**, **2605**
F. moesiaca 2061, 2063, **2849**
F. orientalis 203, 3108, **3698**
F. sylvatica: annual-ring formation 1055; bark thickness 2510; breeding 94, 3062; conversion from coppice 3238; culture of cambium 1957; diseases 1389–90, 3482; ecology 2051, 2063–5, 3200, 3137, 3237; fertilizer treatment 1174; flowering cycle 3173; fodder value of leaves **1739**, **1741**; in Dalmatia 204; increment 1098, 1429, 2542–3, 3609; insects 514, 2432; leachates from leaves 1880; litter weight 23; management 222, 225; mixture with—(Larch) 3240, (Spruce) 226–7, 1204, 3239; mycorrhiza 165, 3161–3; natural regeneration 1829, 3247; pasture under 3398; pruning 342, 3388; races 1951; seed—(collection) 1138, (storage) 272, 2143; site quality 2599; soils under 1198, 1876, 1902, 2008, 2993, 3157, 3159; sowing 1152; stand structure 527; succession 3625; taper 2512–3; thinning 1204, 3355; tolerant of herbicides 2363; understorey 1191; vegetative propagation 3327; volume (calculation) 1401, (tables) 533–4; wind damage 2338; yield tables 556; **wood:** anatomy **614**, **2605**, **3698**; bending **2697–8**; chipboards **3946**; decay **1599**; digestibility of holocellulose **3942**; flooring **1595**; grading of logs **1690**; heartwood formation **3699**; ignition properties **3707**; improved wood **2794**; lignin **655**, **1526–7**, **3743**; mill

studies **2720–1**; moisture content **2622**; natural durability **2809**; preservative treatment **762**, **2780**, **3888**; properties, physical and mechanical **1509**, **2616**; seasoning **1677**, **1681**, **1686**; sleepers **762**, **3864**, **3888**; steaming **1539**, **2697**, **2833–4**, **3907**; storage of logs **1660**; veneer drying **3812**
Fagus sylvatica var. *purpurea* **3698**
Ferdinandia adolphi-frederici 1209
Ferreira spectabilis **3764–5**
Ficus spp. 1210, **1655**
F. religiosa 3411
Fillaeopsis discophora **2633**
Flacourtiaceae 3110
Flemingia sp. 1189
F. strobilifera 1305
Flindersia bourjotiana **1763**
F. brayleyana **3828**
F. collina **1762**
Fraxinus spp. **2905**
F. americana 253, 2010
F. chinensis **2615**
F. commemoralis **2811**
F. excelsior: afforestation of sands 2010; annual-ring formation 1055; bark fissures 3701; ecology 2055, 2063–5, 3199; fertilizer trials 309, 2172; flowering cycle 3173; fodder value of foliage **1739**, **1741**; leaf chemistry 68; lichen flora 2347; mineral contents 1922; natural regeneration 246; not attacked by chafer grubs 514; range in Finland 3143; seed – (dispersal) 1048, (germination) 3293; seedling mortality 3183; soil pH, optimum 282; transpiration 66; vegetative propagation 2179; **wood:** anatomy **1494**; properties **1503**, (electric) **1503**, (ignition) **3707**, (strength) **731**; protection of logs in forest **2830**; tool handles **731**
Fraxinus nigra **653**, 2428
F. ornus 204, 2010, 2063, 3310, 3409
F. pennsylvanica var. *lanceolata:* alkali tolerance 3153; desiccation and winter injury 3150; disease 1328; mixture with Pine 2249; on Russian steppe 319; tolerance of TCA in nursery soil 290
Freziera cuatrecasasii sp. nov. 3129

Gardenia candida sp. nov. 3123
Gevuina avellana 247
Gigantochloa aspera **2859**
Gilbertiodendron gen. nov. 136
Ginkgo biloba 988, 2179, 3042
Gleditsia triacanthos: afforestation of sands 2010; alkali tolerance 3153; flavonoid glycoside in pods 59; seed treatment 278; sowing 3310; wood properties **2615**
Gliricidia maculata 3469
G. sepium 323
Glochidion spp. 3379
Gluta spp. **3674**
G. compacta sp. nov. 127
G. gracilis sp. nov. 127
Glycosmis pentaphylla **866**, **1766**
Gmelina arborea 1188, 2125, 2393, 3262
Gnetaceae 3042
Gnetum gnemon 3044
Gonystylus sp. **1640**, **1487**
G. bancanus p. 125
Gossweilerodendron balsamiferum: **wood:** bending **695**, **2698**; building timber **720**; chemistry **2636**; durability **1655**; properties, general **1487**; sawing studies **1547**; ships decking **739**, **2751**
G. benthamianum **2751**
Goupia glabra **607**
Grevillea robusta **1782**, 3267, **3703**
Grewia bicolor 1302
G. pilosa 417
Guadua angustifolia 2269
Guaiacum officinale **2599**
Guarea sp. **1580**
G. cedrata 173, **695**, 1209, **1486**, **1655**
G. laurentii 1209
G. thompsonii **614**, **695**
Guatteria flexilis sp. nov. 115
Guazuma tomentosa 987
Guibourtia see *Copaifera*
Gymnorinorea gen. nov. 3098

Haloxylon persicum 2160
Hannoa klaineana **2636**
Harungana madagascariensis 1189
Hedera helix 420
Herminiera elaphroxylon **2698**
Hernandia sonora 2148
Hevea brasiliensis 360, **789**
Heyderia 1975
Hibiscus syriacus 2179
Hieronyma alchorneoides 3087
Hippocratea obtusifolia 1302
Hippophaë rhamnoides 96, 2462
Holygarna arnottiana **2910**
Homalium angustistipulatum sp. nov. 3098
H. aubrevillei sp. nov. 3098
Hopea nutans 3205
H. parviflora **2890**
Hymenaea courbaril **607**, 2125, **2635**, 3262
H. davisii **607**
H. stilbocarpa 3087
Hyphaene thebaica **1701**, 2160

Icacinaceae 79
Ilex spp. 3100
I. aquifolium 2363
I. opaca 297
I. senjoensis sp. nov. 3085
Imperata cylindrica 1304–5, 3469
Inga vera **758**
Intsia spp. **1661**
I. (*Afzelia*) *bijuga* 277, **2655**
Isoberlinia spp. **1487**, **1640**
I. (*Julbernardia*) *globiflora* 1302, **1703**
Isonandra 3126
Ixora spp. nov. 3123

Juglans cinerea 158, 3068
J. cordifolia 158
J. mandshurica 158
J. nigra: afforestation of Karst 2202; farm planting p. 243; hybrids 3068; trials in France 253; winter hardiness 158, 3068; **wood:** anatomy **614**; veneer **2852**
Juglans regia: afforestation of Karst 2203; Ca content of leaves 973; hybrids 3068; in Crimea 2257; in shelterbelts 3394; pollen germination 86; seed treatment 276; silviculture 2085, 3229; winter hardiness 158, 3068
J. sieboldiana 2202, 3068
Julbernardia globiflora see *Isoberlinia g.*
Julianiaceae **620**
Juniperus spp. 320–1, 1157
J. ashei 91, 3065
J. bermudiana 482
J. communis 106, **636**, 1374
J. excelsa 2020
J. horizontalis **3979**
J. lucayana **3981**
J. oxycedrus **2906**
J. procera 440
J. recumbens 292
J. sabina **3981**
J. silicicola **1754**
J. texensis sp. nov. 123
J. scopulorum 3175, **3981**
J. utahensis 3610
J. virginiana: afforestation of sands 2010; direct sowing 2188; hybridization 91, 3065; in U.S.S.R. 1126; pioneer on old fields 191; seasonal growth 1430; tolerant of herbicides 292; vegetative propagation 297; volume tables 2515; **wood:** chemistry **3981**; clothes chests **3770**

Keteleeria 1050
Khaya spp. **1483**, **1681**, **2751**
K. grandifoliola **877**
K. ivorensis **695**, 1193, 3140
K. senegalensis **2592**
Kirkia acuminata 1007
Kjellbergiodendron 1991
Koompassia malaccensis **608**, **2584**
Kopsia albiflora **2899**

Laburnum anagyroides 2179
Lafoensia pacari 3087
Lagerstroemia tomentosa **3818**
Laguncularia racemosa 259, 334
Lannea grandis 153
Lantana aculeata 1305
Larix 1013, 1051, 2040, 3054
L. dahurica (*gmelini*) **1770**; × *L. decidua* 996
L. decidua: chemical composition 3029; crown form 2030; cytology 3057; diseases 2387, 2402, 3482; ecology 3134–5; fertilizer trials 309; form factor 2511; grafting 302; growth rings 555, 1055; hybridization 88, 996; in Finland 268, 2187; in New Zealand 3265; increment 1429, 3609; insects 1346, 1378, 3543; mixture with Beech 3240; natural regeneration 3247; pasture under 3398; provenance trials 254, 1951; resin tapping 2265; root system 3186; seed—(collection) 268, (extraction 3286, (germination) 2024; stem curvature 179; susceptible to 2,4-D 2363; volume tables 533; wind damage 2338; yield

table 3622; **wood:** bending **3725**; durability **2809**; electrical properties **1503**; heartwood extractives **3758**; properties, general **2588**; seasoning **3910**; staple-holding power **3732**
× *Larix eurokurilensis* 996
× *L. eurolepis* 88, 1346
L. kaempferi see *L. leptolepis*
L. kurilensis 2187
L. laricina: cytology 3057; decomposition of litter 945; distribution 2003; ecology 3215; in Germany 2115; natural regeneration 1109; seed germination 1051; var. *pyramidalis argentea* 3090; wood chemistry **653**
L. leptolepis: bud pruning 344; crown form 2030; cytology 3057–8; diseases 441, 1312, 3482; growing season 181; hybridization 88; in—(Denmark) 312, 3256, (France) 253, (Germany) 2116; increment 1429; insects 1346, 2453; polyploids 1947, 3048; provenance trials 254; response to—(compost) 2207, (liming) 3351; silviculture in Europe 3255; soil degradation 546; volume tables 533; yield tables 2541, 3622; **wood:** heartwood formation **1499**; pulping **831**
L. occidentalis 2022, 2098
L. sibirica 254, 999, 2187, 3294, 3505
L. sukaczewi 170
Laurelia aromatica **3708**
L. sempervirens 247, **757**, **3708**
L. serrata **3708**
Lecaniodiscus sp. 1209
Lecythis curranii **3675**
L. ollaria **3675**
Leguminosae 1984, 3111
Leptospermum attenuatum 419
L. citratum **2916**
L. ericoides 468
Leucaena glauca 360
Libocedrus 1975
L. decurrens 429, 1414, 3253
Licania arborea **3675**
L. mollis **876**
L. venosa **876**
Licaria canella **607**
L. cayennensis **2591**, **2685**
Liquidambar 2041
L. orientalis p. 242
L. styraciflua: disease 2417; seasonal growth 1430; seed dispersal 2023; seedling development 2027, 3180; **wood:** anatomy **1491**; electrical test for decay **2810**
Liriodendron tulipifera: afforestation of eroded sites 2207; in Germany 2115; nursed by Robinia 2210; races for Belgium 250; seasonal growth 1430; soil moisture requirements 3152; thinning 1205; **wood:** laminated beams **1590**; pulping **831**
Lithocarpus spp. nov. 3107
L. densiflorus **2838**
Loiseleuria procumbens 3085
Lonchocarpus capassa 1007
L. sericeus **1489**
Lonicera sp. 66, 2363
Lophira procera **1485**, **2584**, **1550**, **1661**
Loranthus spp. 418
L. europaeus 2415
L. longiflorus 417
Lovoa klaineana 1194, 3141
Luehea grandiflora 3087

Macaranga spp. nov. 1020
Macarisia 3122
Machilus thunbergii **2797**, 3650
Maclura pomifera 406
Macrolobium spp. nov. 136
M. coeruleoides **1655**
M. dewevrei 946
M. macrophyllum 1209
Macrostelia gen. nov. 3114
Madhuca utilis **2832**
Mallotus philippinensis **875**
Malouetia bequaertiana 128
M. brachyloba sp. nov. 128
Malouetiella parviflora gen. et sp. nov. 128
Malus see *Pyrus*
Mammea africana **1655**
Mangifera flava sp. nov. 127
M. indica 1190
M. minutifolia sp. nov. 127
Manihot glaziovii 1189
Manilkara 1995
M. aubrevillei sp. nov. 149
M. bidentata **2635**
Mansonia altissima **1491**
Markhamia obtusifolia 1302
Marquesia macroura **1734**
Medusandra richardsiana gen. et sp. nov. 140, **621**
Melaleuca spp. 981
M. leucadendron 1891, **2916**, **3978**, p. 123
Melanorrhoea spp. **3674**
Melanoxylon brauna 3087
Melia azadirachta (*Azadirachta indica*) 1949, 3346
M. azedarach 2206
M. dubia **1655**
Meliosma spp. nov. 146, 3124
Meliaceae 1988
Metasequoia glyptostroboides: diseases of seedlings 2379; general accounts 124–5; in Netherlands 2007; vegetative propagation 295, 2007; wood anatomy **3686**
Metrosideros scandens **3998**
Micromeles japonica **1511**
Millettia laurentii **1486**
M. versicolor 1189
Mimosaceae 137–9
Mimusops 3126
M. heckelii **1487**, **1531**, **1563**, **1640**
M. huberi **3734**
Mitragyna ciliata 2164
M. stipulosa **695**
Monocyclanthus vignei gen. et ssp nov. 3098
Monopetalanthus aff. *pellegrini* **1493**
Monopteryx uacu **2919**
Montezuma speciosissima 259
Mora excelsa **607**, **1661**, p. 375
Moringa aptera 2160
M. pterygosperma **868**, **1781**
Morus alba: afforestation of sands 2010, 2206; host of mistletoe 417; seed morphology 1943; var. *tatarica* 3153; vegetative propagation 2179; **wood:** anatomy **2609**; for sports goods **731**
Morus bombycis 1943
M. indica 1940
M. kagayamae 1943
M. laevigata **731**
M. multicaulis 1943
Musanga smithii 946, 1189
Myrica gale 30, 168
Myrceugenia apiculata 247
Myroxylon toluiferum **3675**
Myrtaceae 141
Myrtus luma 247, **3708**

Nectandra elaiophora **1779**, **3762**
N. miranda sp. nov. 115
N. puberula 3087
Neesia altissima **604**
Neosprucea kuhlmannii sp. nov. 134
Nesogordonia 3130
Nitraria retusa 2160
Nothofagus **1498**, **2595**, 3109
N. antarctica **2595**, **3689**
N. betuloides **2595**, **3689**
N. cunninghamii **3828**
N. dombeyi **757**
N. fusca 322
N. obliqua **757**
N. procera **3708**
N. pumilio **757**, **2595**, **3689**
Nuxia humberti sp. nov. 3112
Nyctanthes arbortristis **860**
Nyssa sylvatica 407

Ochlandra travancorica **2859**
Ochroma lagopus **2698**, 3260
Ocotea bullata **1491**
O. canaliculata **607**
O. rodiaei **607**, **1491**, **1661**, **2635**, p. 375
O. rubra **607**, **1486**, **1661**, **2635**, **3684**
O. wachenheimii **607**
Octomeles sumatrana **2698**
Odina wodier **3972**
Olea europaea **627**
O. verrucosa 49
Ongokea gore **2633**
Opuntia spp. 2367
Ortholobium gen. nov. 139
Ostrya **618**
O. japonica **1511**, **3917**
Ostryopsis **618**
Ourouparia guianensis **1758**
Oxystigma oxyphyllum **1486**, **1655**
Oxytenanthera abyssinica 2074

Pachylobus edulis 1209
P. yangambiensis 1209
Palaquium maingayi **2832**
Palmae 2458
Papuacedrus 1975
Paraberlinia bifoliolata **1493**
Paratecoma (*Tecoma*) *peroba* **739**, **1640**, **1661**, **2751**, **3675**
Parinari sp. **605**
P. excelsa **1487**
P. scabra **1661**
Patagonula americana **3703**
Paulownia tomentosa **660**, 1159, 2156, 2416
Pausinystalia macroceras **1759**
Peltogyne sp. **607**, **3684**
Peltophorum africanum 1007

Peltophorum inerme 277
Pentaceras australis **1767–8**, **2902**
Persea azorica 2066
P. lingue **757**, **3708**
Petersia africana **1655**
Petitia domingensis 259
Phellodendron amurense **1749**
Phialodiscus plurijugatus **2633**
Phoebe goalparensis 2211
P. porosa **2584**, **3676**, **3703**, **3734**
Phyllanthus discoideus **1655**
Phyllocladus rhomboidalis **2634**, **3827**
Phyllostachys pubescens **3717**, **3795**
Picea spp. 312, 1050
P. abies: afforestation of sands 2118; altitudinal variation 1952; annual-ring formation 1055, 3191; *aurea* forms 3055; bark—(harvesting) **862**, (thickness) **3423**, (volume) 530; checked by heather 2214; cleaning 1200; competition with Fir and Larch 3169, 3185–6; conversion to selection forest 2091; cull estimation 3659; cytology 3056; deer damage 2426; direct sowing 1165–6; diseases 106, 2387, 3495; ecology 2053, 2058; embryology 989; felling season **364**; fertilizer treatment 309, 1173, 3352; in Hungary 3252; increment—(diameter) 1429, (value), 574, (volume) 1098, 2542–3, 3609, 3614; indicator of site quality 30; insects 1373, 2446, 2498–9, 3523, 3542, 3554; litter—(composition) 19–20, (decomposition) 2983, (extract inhibits germination) 2981, (use in seedbeds); 1151; mineral contents 1922; mixtures 226–9, 1204; mycorrhiza 1040; natural regeneration 237–8, 1109, 3247; not browsed by elk 464; nursery practice 3307; pasture under 3398; photoperiodism 157; planting stock, grading of 3311; pollen dispersal 1046, 3055; profitability 3643–6; pruning 1211, 3158; pure stands, harmful effect on streams 224; races 1951; reaction to—(drought) 2340, (herbicides) 413, 2363, (smoke) 2349–50; resin tapping 357; response to—(compost) 2201, (drainage) 1197; root system 169; seasonal growth 2036; seed—(dispersal) 1047, (germination) 2024, (insect damage) 1344, 2475, (ripening) 3177, (squirrel damage) 2420, (storage) 271, (testing) 3294, (treatment) 3291, (weight) 2141; seedling abnormalities 1939; site quality 4017; soil requirements 1887; soils under 1902, 2008–9, 2993, 3156–7, (fauna) 3000; spacing 3338; stem/crown ratio 3604; succession 189, 3625; suppressed trees 3189; taper 1398; thinning 3357; transpiration 3006; transplanting 308, 3312; tree classes 1451; var. *corticata* 3091; vegetative propagation 296–7, 302; volume tables 533; wind damage 1279; yield tables 556, 3622; **wood:** bending **3725**; bleaching **2700**; chipboard **3946**; floating **2331–2**; infra-red spectrum **3742**; knots **1688**; lignin **1518**, **1526**, **3743**, **3747–8**; natural durability **2809**; preservative treatment **2784**, **3854**; pulping—(decayed wood) **1654**, (qualities) **1704**, (waste wood) **2865**; storage of—(logs) **364**, (pulpwood) **1657**; tanstuffs **1728**, **1742**, **2889**; thermal properties **3707**; turpentine **1771**
Picea bicolor 3145
P. engelmanni 160, 208, 432, 3494
P. glauca: die-back on gley soil 2343; direct sowing 2092; ecology 2078–9, 3215; identification by twigs 1014; increment 2532; infested by mistletoe 3471; insects 2446, 2502; logging damage 2504; mixture with Aspen 233; natural regeneration 2105–7; seed collection 2133; seedling development 2028; site quality 2529; squirrel damage 2422; tolerance of herbicides 290; volume tables 2516; wind damage 1280; witches' brooms 3494; **wood:** moisture content **3711**; seasoning **3912**
P. glehnii 986, 1312
P. jezoensis: essential oil **2913**; osmotic pressure 986; plywood **2797**; protection of logs **1667**; range 3147; var. *hondoensis* 3145
P. koyamai 3145
P. mariana: control of mistletoe on 2374; ecology 3215; felling study 220; identification by twigs 1014; increment 3611; insect pests of cones 2434; logging damage 1386; natural regeneration 2088; seed collection 269, 2133; seedling development 2028–9; site quality 2528; witches' brooms 3494; **wood:** colour precursors in **3761**; hemicelluloses **1529**; lignin **662**
P. maximowiczii 3145
P. morinda **1540**, 2104
P. omorika 297, 3155
P. orientalis 203, 2099
P. polita 3145
P. pungens 301, 304, 1930
P. rubens: competition from bracken 3170; decay 433; floatability **3448**; identification by twigs 1014; insects 3564; pruning costs 340; seedling development 2028–9
P. sitchensis: check 326, 2214; damping off 2169–70; in Britain 1123, **1541**; in Germany 2116; insects 1349, 2446; nursery soil treatment 283; provenance 3270; pruning 1211; soil pH under 2008; wind damage 391, 2338; yield tables 3622; **wood:** bending **2698**; electrical properties **1503**; lignin **655**; specific gravity **1507**; strength properties **1512**, **1541**; swelling **3716**
Piliostigma thonningii 1007
Pinaceae 3029, 3042
Pinus: Ca content of needles 973; hybridization 89–90, 3051–3; juvenile forms 1050; pollen 83; sub-genera 3092; wood anatomy **628**
Pinus spp.: damage from late frosts 392; in Belgian Congo 3267; in Uruguay 2254; pollen collection dates 3171; root oil **1638**; seed—(storage) 2142, (testing) 3296; succession 3216
P. albicaulis 3253
P. attenuata 3253
P. ayacahuite **3992**
P. banksiana: afforestation of sands 2010; ecology 3215; increment 3613; insects 490, 3563; mistletoe infestation 3472; provenance trial 264; reaction to herbicides 290; seed—(collection) 2025, 2133, (germination) 2154, (treatment) 273; site quality 2528; spacing 2196; thinning 327–8; wood preservation **3857**, **3899**
P. brutia see *P. halepensis* var. *brutia*
P. bungeana **1534**
P. canariensis 49, 258
P. caribaea: burning, effect on growth 403; improvement fellings 3376; in Africa 258, 1130, 3268, **3923**; in Australia 1119; increment 3612; provenance trials 3273; root rot of seedlings 3314; seasonal growth 1430; site quality 3608; taxonomy 1976; thinning 3363–4; yield 2533; **wood:** pulping **1708**; pulpwood storage **781–2**; strength of South-African-grown **3923**; see also *P. elliottii*
P. cembra 1164
P. cembra var. *sibirica* 171, **1514**
P. cembroides var. *edulis* (*P. edulis*) 2152, **3992**
P. clausa 239, 3244, 3283
P. contorta var. *latifolia:* diseases 434, 444; ecology 1057, 2078, 3215; in—(Denmark) 312, (Germany) 2115, (Great Britain) 326, 1123, 1186, (Ireland) 251; insects 1354, 1370; provenance trials 1134; regeneration after strip cutting 2087; seed dispersal 2022; thinning 2102, 3375; volume tables 535, 1400; vegetative propagation 1163; wood preservation **1643**, **3909**
P. cooperi **3993**
P. coulteri 3016, 3253
P. coulteri × *P. jeffreyi* 90
P. densiflora: damping off 1312; general account 3145; polyploidy 3059; seedlings, chemical composition of 1932; spacing 3337; vegetative propagation 2180, 3328; water culture 1925; **wood:** anatomy **629**, **2611**; fibreboard **2869**; pulping **820–6**, **3941**
× *P. densithunbergii* 62, **2797**
P. echinata: afforestation of eroded sites 2207; assortments 3598; Ca content of litter 18; disease 3314; light requirements of seedlings 1052; provenance trials 3273; regeneration fellings 3232; response to Zn deficiency 3460; seasonal growth 1430; seedling development 2027; site quality 3607; thinning 3366–8; wood preservation **1642**
P. edulis see *P. cembroides* var. *edulis*

Pinus elliottii 1976, see also *P. caribaea*
P. excelsa (*wallichiana*) **768**, 1317
P. formosana **1534**
P. gerardiana **1534**
P. halepensis: afforestation of—(coastal dunes) 315, (karst) 2203; in S. Rhodesia 258; nursery soil requirements 2159; resin and balsam **1773**, **3994**; sowing season 284; spacing 2196; squirrels' dreys in 49
P. halepensis var. *brutia* 1110, 2159, 3343
P. heldreichii **1773**; var. *pancici* 3093
P. hondurensis **3923**
P. insularis see *P. Khasya*
P. jeffreyi 463, 2010, 3253
P. khasya (*P. insularis*) 258, 416, 2108, 2124–5, 3262, 3268–9
P. koraiensis 3145
P. lambertiana: cull % 1414; direct sowing 3503; planting stock, treatment of 2193; **wood:** conversion **3809**; extractives **3768**, **3952**; stain **2853**
P. leiophylla 258, 3268–9
P. leucodermis 2260, **3994**
P. longifolia: disease 442; in Nyasaland 3268; in S. Rhodesia 258; **wood:** extractives **1534**, **3884**; preservative treatment **3906**
P. massoniana **2585**
P. merkusii 3268
P. monophylla 3253
P. montezumae var. *rudis* (*P. rudis*) 2451
P. monticola: hybridization 3053; in Germany 2115; increment 3619; insects 3530; logging damage 523; planting stock, treatment 2193; pole blight 524, 1387–8, 2505, 3581, pp. 242–3; seed testing 2152; thinning 2225; water retention in needles 160
P. mugo (*montana*): afforestation of mountains 3341; ecology 2058; in Denmark 312; insects 3532; interplanted with Spruce 326; microclimate under 955; Scots Pine grafted on 303, timberline in Balkans 1064; varieties 3341
P. muricata 258, 3016, 3253
P. nigra s.l.: afforestation of—(coastal dunes) 315, (karst) 2203, (sands) 2010; breeding for resin production 992; in Hungary 3252; photosynthesis 1930; races 3094; resin **873**, **1773**, (tapping) 2260–1; soil requirements 2159; soils under 2008; sowing—(depth) 3310, (season) 284; turpentine **873**; vegetative propagation 2179; volume tables 535
P. nigra var. *austriaca:* balsam **3994**; desiccation of needles 3032; in Serbia 3259; resin tapping 2264; volume tables 533; wood, natural durability **2809**
P. nigra var. *calabrica:* defoliation 2410; insects 1372; not attacked by squirrels 3506; root pruning 2178; Scots Pine grafted on 303; staple-holding power of wood **3732**; thinning 2228, 3371
P. nigra var. *caramanica* 3343
Pinus oocarpa 2451, **3993**
P. palustris: diseases 2345, 3314, 3459; fertilizer treatment 3349; improvements fellings 3376; nursery practice 3308; planting stock, treatment of 3334; provenance trials 3273; rooting depth and height growth 544; seasonal growth 1430; site quality 3608; thinning 2225
P. patula: in Africa 258, 1130, 2126, 3268–9; specific gravity of wood **3771**; water consumption 159
P. peuce **1773**, 2260, **3994**
P. pinaster: afforestation of coastal dunes 315; chemical composition 976; growth curves 1423; palaeoecology 1056; resin tapping 358, 3405–6, (effect on growth) 2262; seed—(germination) 3037, (treatment) 274–5; squirrels' dreys in 49; turpentine **1774**, **2909**; volume tables 535; yield 1177; **wood:** anatomy **628**; borer damage **786**; pulp **2858**
P. pinceana **3992**
P. pinea: afforestation—(in Turkey) 3343, (of coastal dunes) 314–5, 3014; squirrels' dreys in 49; volume tables 535
P. ponderosa: bud pruning 344; cull % 1414; damage—(porcupine) 3500, (squirrel) 3507; direct sowing 1167; growth—(curves) 1424, (seasonal) 1430; in Germany 2115; increment and stand density 2531, 2544; needles, moisture retention 160; photosynthesis 1930; prescribed burning 1297; races, altitudinal 2128; range 1077; response to release 336; sanitation cutting 1371; seed testing 2152; silvicultural characters 3253; tree classes 2556; turpentine **1726**; **wood:** bark chemistry **3967**; fibreboard **2874**, **2878**; laminates **2735**; poles **3807**
P. pseudostrobus 258, 1130, 2451, 3268, **3993**
P. radiata: afforestation of dunes 3016; bud pruning 344; fertilizer treatment 2346; growth curves 1423; in—(Africa) 258, 3268, (Great Britain) 1123; increment 3265, 3617–8; insects 502, 2460; natural regeneration after fire 2101; plantation technique 1118; rotation in Spain 564; silvicultural characters 3252; thinning 3358; **wood:** battery separators **3827**; preservative treatment **2781**, **2824**; properties, general **2615**; pulp and pulping **1611**, **2858**; tannins **2892**, **3793**
P. resinosa: branch elongation 1054; bud pruning 343, 3386; Christmas trees 2255; damping off 2167; direct sowing 2092; distribution 1035; herbicides, reaction to 290, 405; in Germany 2115; increment 1425, 2538; insects 1381, 2445; natural regeneration 3243; planting stock, treatment 2193; provenance trials 1135–6; seed weight 2141; thinning 329, 1202, 3370; wind damage 1279; **wood:** chemistry **653**; moisture content **3711**; sapstain **772**; strength of plantation-grown **1501**
Pinus rigida 1124, 2386, 2411
P. rigida var. *serotina* 1108, 3178
P. roxburghii see *P. longifolia*
P. rudis see *P. montezumae* var. *rudis*
P. sabiniana 3253
P. sibirica see *P. cembra* var. *s.*
P. 'southern': poles, preservation **1641**; provenance trials 3061, 3272–3; response to release 2232; silviculture, symposium on 2084, 3227; stumpwood, fibreboard from **2874**; thinning 3360–4
P. strobus: afforestation of—(eroded soils) 2207, (karst) 2202, (sands) 2010; breeding for disease resistance 993, 3053, bud pruning 343; competition with Red Pine 3243; decay 3479; direct sowing 2092; desiccation of needles 3032; diseases 106, 443, 1323, 2168, 2411; drought, effects of 2340; hybridization 3053; in Germany 2116; insects 1381, 2480; movement of radioactive isotopes in 3033; photosynthesis 1930; seed treatment 2147; wind damage 1279; **wood:** pulping **827**; seasoning **3912**
P. sylvestris: afforestation of—(coal tips) 1181, (in Turkey) 3343, (sands) 2010, 2118, (strip-mined land) 312; balsam **3994**; bark—(fissures) **3701**, (thickness) 1396, **3423**, (volume) 530; breeding p. 242; cleaning 1200; cones, tannins from **1742**; Cr poisoning 2344; crown form 2031; damage—(capercailzie) 471, (defoliation) 2410, (elk) 464, (squirrel) 3506, (wind) 2338; direct sowing 1166, 2187, 3333; diseases 1310, 2409, 3475, 3482; drought, effects of 2340; ecology 202, 2052; fertilizer treatment 2172; increment—(diameter) 1429, (value) 574, (volume) 1098, 2543, 3609; insects 2481, 3542, 3562, pp. 500–1; litter 19, 23, 39, 943, 2985; mixtures 232, 326; morphology of shoots 75; natural regeneration 2103, 3247; palaeoecology 1056, 2040; photoperiodism 157; photosynthesis 1930; plantations in Hesse 1792; pollen 84; provenance trials 1133, 1951, 3271; pruning 3188, (bud) 2240; reaction to herbicides 413, 2363; replacement of lost leaders 1042; resin tapping 2260, 2263–4, 3402, (effect on wood) 2267; response to drainage 1197; root—(growth in iron pan) 1039, (sap) 63, (system) 169; rotation 3231; seed—(collection) 2139–40, (dispersal) 1047, (extraction) 2139–40, 3287, (germination) 2024, (induced production) 2138, (storage) 271, (testing) 3294, (treatment) 2146, 3290–2; seedbed watering 285; seed-trees, selection of 1137; soils under, 350, 1876, 2009, 3157;

stem/crown ratio 3604; stumps, macrofauna of 970, 3194; transpiration 66–7, 3006; tree classes 1447; vegetative propagation 81, 296, 302–3, 1163, 2179, 2186; volume tables 533, 2517–8; **wood:** aircraft timber **2752**; barking **3855**; bleaching **2700**; bluestain **3874**; decay **3875–7**; durability **2809**; floating **1269**, **2331–2**; heartwood constituents **1534–6**, **3759**; ignition **3707**; lignin **3740**; logging costs **3425**; plywood **1585**; preservation **3855**; pulping **1704**, **1709–10**; resistance to comminution **2696**; seasoning **1676**, **1682**, **1685**, **3910**; sleepers **3864**; steaming **1539**; storage of pulpwood **1657**; strength **3723**, (of resinous wood) **2629**; stumpwood, lubricating oil from **3954**; yield tables 3622

Pinus sylvestris var. *hamata* 203

P. taeda: afforestaton of eroded sites 2207; assortments 3598; direct sowing 3331; diseases 427–8, 1314, 3314; in—(Africa) 258, 1130, 3268–9, (Argentina) 1131; increment 544, 1427, 1430; interception of rainfall 3003; light requirements of seedlings 1052; litter, Ca content 18; pioneer species 3180; provenance trials 265, 3273; pruning 341, 3387; regeneration fellings 3232; response to—(fertilizers) 3353, (release) 2232–3, (Zn deficiency) 3460; rooting depth 544; seasonal growth 1430; seed—(lost in burning) 2359, (stratification) 2145; seedling—(development) 2027, 3180 (grazed by pigs) 3503; site quality 3607; thinning 330, 2226, 3360, 3364–6; **wood:** anatomy **625**; early- and late-wood formation **633**; storage **782**

P. thunbergii: damping off 1312; defoliation effects 175; general account 3145; monophyllous individual 3095; needle morphology 3060; on saline soils 286; seed—(germination) 1935–6, (permeability) 2026; **wood:** compreg plywood **2797**

P. torreyana 3253

P. virginiana 971, 2207, 2227, 3369

P. wallichiana see *P. excelsa*

Piptadenia africana **1487**, **1640**, **1655**

P. communis 3486

P. leucocarpa **2633**

P. macrocarpa **1487**

P. rigida **3703**

Pistacia atlantica 2037

P. palaestina 2037

Pithecellobium spp. nov. 138

P. balansae 139

P. dulce **3675**

P. pruinosum **3756**

P. saman see *Samanea s.*

Pittosporum 1992

P. lynesii sp. nov. 1992

Platanus acerifolia 445, **1491**, 2162

P. occidentalis 60, 1326, 3181

P. orientalis 315, 2179, **2602**

Plathymenia reticulata **3766**

Platycarpum decipiens sp. nov. 145

P. duckei sp. nov. 145

P. rhododactylum sp. nov. 145

Platymiscium floribundum 3087

P. ulei **3734**

Platyosprion platycarpum **1495**

Podocarpaceae **2601**, 3042

Podocarpus spp. **757**, **1484**, 1978, 3096

P. gracilior 440

P. macrophyllus 3145

P. milanjianus **1492**

P. totara **2649**, **3732**

P. usambarensis **1492**

Polyalthia suaveolens **2633**

Polyosma aulacocarpa **3692**

Pongamia pinnata **2897**

Populus sect. *Leuce* 995, 3125

P. spp.: American 148; bacterial canker 452, 2406; breeding 991, 995, 1027, 1953; conference **4050**; cover crops 1192; diseases 4050; fertilizer trials 3352; fodder value of foliage 1739–40; in Italy 219, 4050; in Czechoslovakia 1027; in Jugoslavia 1028, 1993, 4050; insects 1350, 2500; leachates from leaves 1880; monographs on 147, 1026, 1028; photoperiodism 1953; reflectivity of leaves 561; silviculture 219, 1094, 2221–3; spacing 311; sterilization of cuttings 1160; thinning 1161, 2230; varietal trials 1122; vegetative propagation 1161, 2183–4; **wood:** anatomy **1491**; lignin **663**, **1525**; pulping **831**; teredo resistance **1661**

× *P.* 'A.M.' 452–3

P. alba: afforestation of sands 2010; bark fissures **3701**; giant tree 2035; increment 2535; insects 2479; leaf shape 3125; **wood:** anatomy **3691**

P. angulata 3305

P. angulata × *P. trichocarpa* 1998

× *P.* "bachelierii' 1315

P. bachofeni 1999, 2010

× *P. berolinensis* 66, 2535, 3305

P. candicans 3492

P. canescens: afforestation of sands 2010; increment 2535; leaf shape 3125; squirrel dreys in 49; vegetative propagation 297; **wood:** anatomy **3691**; tension wood **2851**

P. deltoides: desiccation and winter injury 3150; floral morphology 3047; in Czechoslovakia 1027; in S. Africa 1199; increment 551, 2535; injured by weed-killers 405; rust-resistant strain p. 243; vegetative propagation 3323

P. diversifolia 78

× *P. eugenei* 1027, 2534

× *P. euro-americana* ('*canadensis*') 452, 951, 1161, 1929, 1998, 2010, 2479, **2613**; see also *individual hybrids*

× *P. gelrica* 1027, 2223, 3493

× *P. generosa* 1315

P. grandidentata **365**, **666**, 2391

× *P. marilandica* 551, 1027, 2223, 3192, 3493

P. monilifera see *P. deltoides*

P. nigra 315, 2010, 2698, 3300, 3305

P. nigra var. *italica* (*pyramidalis*) 2179, 2479

× *Populus regenerata* 551, 1027, 2222, 2405, **2851**

× *P. robusta:* canker-resistance 2405 3493; disease 1315; in—(Czechoslovakia) 1027, (Jugoslavia) 1028; increment 551; poor rooter in water 1122; vegetative propagarion 3324–5; **wood:** chemistry **668**; see also × *P. vernirubens*

× *P. serotina:* cambial activity and flowering 3192; in—(Czechoslovakia) 1027, (Jugoslavia) 1028;, increment 551; price of timber 2223; var. *erecta* 3493

P. suaveolens 66

P. tremula: androgynous clone 3176; breeding 81; chemical control 2363; culture of cambium 3071; ecology 2061; elk damage 464; financial return 3645–6; in Finland 4050, increment 2535; insects 488, 1369, 3578; mineral content 1922; leaf shape 3125; mycorrhiza 1040; nursery practice 3306; seed cleaning 1140; transpiration 66, 3006; **wood:** anatomy **3691**; chemistry **668**; lignin **3743**; pulping **1710**, **2865**; tension wood **2851**

P. tremuloides: chemical control 406, 1208; deer browsing 54; disease 1321, 2391, 3498; ecology 2086, 2083, 2088, 3215; floral morphology 3047; mixture with Spruce 233; site quality 2528; thinning 1454; volume estimation 3590; **wood:** chemical barking **365**; discoloured heartwood **2848**; hemicelluloses **667**, **1528**; textile pulp **3952**; veneer **3811**

P. trichocarpa 1022

P. trichocarpa × *P. angulata* 1998

× *P. vernirubens* 1315

Pouteria 2604

Premna congolensis sp. nov. 3133

Prosopis spp. **3959–60**

P. juliflora 1190, 2366, **3675**

P. juliflora var. *velutina* 410

P. nigra 316

P. spicigera 2206

Protium spp. nov. 1980

P. decandrum **3677**

P. guianense **3675**

Prunus spp. 973

P. amygdalus 2203

P. angustifolia **871**

P. armeniaca 2257

P. avium: diseases 1328; 2404; in Crimea 2257; nursery practice 2163; silvicultural characters 1031; sun-scald 2342; **wood:** durability **2809**; heartwood extractives **3757**; structure **3684**

P. demissa 2253

P. domestica **2609**

P. mehaleb 2010

P. mume **2818**

P. padus 973

P. pensylvanica 1337, 2428

P. persica 2257

P. puddum **870**

P. salasii 3267

P. serotina: germination inhibitor in bark **871**; in—(France) 253, (Jugoslavia) 2010; nursed by Robinia 2210; phylogeny 1025;

reaction to herbicides 411, 2372–3; strip felling 3233; **wood:** pulping **833**; veneer **2852**
Prunus serrulata **1511**, **2650**
P. sphaerocarpa 3087
P. spinosa 3027
P. virginiana 54
Pseudocadia 3111
Pseudolarix amabilis 1050, 3151
Pseudosamanea guachapele **2635**
Pseudotsuga 1050, 1977
P. japonica 3145
P. macrocarpa 3253
P. taxifolia: bark—(bast fibre) **3969**, (tannin) **3968**; breeding 994, 1946; climatic requirements 1036; compost, response to, 2201; direct sowing 1168, 2190; disease resistance, clonal variation in 3054; diseases 439, 411, 1316, 1324–5, 2380, 2411–4, 3480, 3488; ecology 2077; growing season 181; heartwood formation p. 240; in—(Belgium) 250, 2111, (Bulgaria) 1098, (France) 253, (Germany) 1117, 1125, 2116, (Great Britain) 1123, **1541**, (Jugoslavia) 2202, 3259; increment 1429, 2544; insects 486,, 1347, 2480; natural regeneration 1298, 2098, 3245; needles, moisture retention 160; planting stock, treatment 2193; pruning 1211, 2239; races 250, 2111; seed—(dispersal) 2022, (pests) 463, 489, (testing) 2152; site index 1418; soil under 2008; stand density 541; thinning 331, 573, 1203, 1453, 2554, 3372, (economics of) 3647; tree classes 2095; vegetative propagation 296; volume tables 1414; wind damage 2338; **wood:** chemistry **1524**; density **2659**; durability **700**, **778**; electrical properties **1503**; fibreboard **2872**, **2878**, **3947**; fireproofing **769**; general account **2584**; grading of logs **2855**, **3926**; laminates **2735**; logging costs **3425**; preservative treatment of plywood **3861**, **3868**; pulping **1707**; sawmill studies **1575–6**; seasoning **3912**; sleepers **1640**; staple-holding power **3732**; teredo-resistance **1661**; veneer from cull logs **2854**; waste **1608**; yield tables **3622**
P. taxifolia var. *viridis* 2541
Psychotria spp. nov. 3123
Pteridium aquilinum 30, 972, 2213, 3170
Pterocarpus 1987
P. angolensis 538, **670**, **1532**, **2599**
P. indicus **614**, 1190, 1987
P. rotundifolius 1007
P. dalbergioides 1190
P. soyauxii 173
P. vernalis **609**
Pterospermum diversifolium **3682**
Pterygota sp. **1640**
P. kamerunensis **2593**
P. macrocarpa **2593**
Purshia tridentata 2253
Pygeum crassifolium sp. nov. 144
Pyrus communis 1306, 2257, **2818**
P. malus 66, 1306, 2257, 3036
Qualea sp. **3684**
Quercus 93, 973, 1023, 3105
Q. spp.: chemical control 406, 1208; culture of cambium 3071; diseases 429, 451, 1318–20, 2396–9; fertilizer trials 309; from Texas 3106; insects 2432; Macedonian names for 1982; palaeoecology 2040; succession in New Jersey 3216; underplanting of degraded stands 346; **wood:** firewood, drying of **1677**; tannin from waste **1727**; teredo-resistance **1661**; veneer—(checking) **2852**, (discoloration) **1689**
Q. acutissima 1933
Q. aegilops **880**, **3976**
Q. alba: bark, tannin content **3975**; barking, chemical **365**; chemical control 1208; diseases 2399, 3497; light requirements of seedlings 1052; natural regeneration 245; seasonal growth 1430; **wood:** bending **696**; flooring **3823**; laminates **2736**; use of waste **3841**
× *Q. alvordiana* 93
Q. borealis: bark, tannin content **3975**; chemical control 1320, 2236; cleanings 3356; diseases 2399, 2404, 3482; growing season 181, 1430; in—(Belgium) 250, (Germany) 2116, (Sweden) 245; increment 1429, 3615; litter decomposition 2983; monograph on 3615; natural even-aged stands 234; natural regeneration 245; races 250; roots of seedlings 3184; soil requirements 282; sowing 1152; volume tables 533; yield table 2541; **wood:** distillation **3962**; flooring **2743**, **3823**; laminates **2735–6**; pulping **831**
Q. calliprinos 2037
Q. cerris: disease 2415; ecology 2061; natural regeneration 111–2; in Hungarian forests 3252; sleepers **2710**; yield table 3624
Q. coccifera 184, 2464
Q. coccinea **3975**
Q. conferta 1111–2, 2061, 2415
Q. crispula **736**, **797**, **2632**, **3917**
× *Q. drummondi* 92
Q. ellipsoidalis 256, 365, 2399
Q. emoryi 1023
Q. faginea 133
Q. falcata 1430, 3382, **3975**
Q. fenestrata 416
Q. glauca **2883–4**
Q. iberica 203
Q. ilex 2464, 2477
Q. ilicifolia 2234
Q. ithaburensis 2037
Q. kelloggii **2837**
Q. laevis **1546**, **1708**
Q. macedonica 2415
Q. lanuginosa 2415
× *Q. margaretta* 92
Q. marilandica 2364, **3975**
Q. montana 53, 2398, **3841**, **3975**
Q. myrsinaefolia 1932
Q. palustris 405, 3461
Q. petraea see *Q. sessiliflora*
Q. pubescens 184, 1922
Quercus robur s.l.: acorns—(fungal infection) 423, (pests) 3513, (storage) 3288, (testing) 3296; bark fissures **3701**; diseases 429, 3477, 3482; ecology 197, 199, 201–2; epicormics 2033; fertilizer treatment 1174; fodder value of foliage **1739**; genetics 3062; groundwater, effect on 39; increment and yield 575, 1429, 3609; injuries—(frost) 2339, (wind) 2338; insects 514, 2444, 2454, 2464, 2482, 3546; lichen flora 2347; litter weight 23; mixture with Pine 1126; natural regeneration 3184, 3247; phenology 180, 3173; range 3143; reflectivity of leaves 561; soils under 200, 350, 1190, 2009, 2011, 3156; sowing 318, 1152, 2248; squirrels' dreys in 3027; thinning 2229; transpiration 66; vegetative propagation 81; volume tables 533; yield tables 556; **wood:** bleaching **2700**; elasticity **1509**; electrical properties **1503**; flooring **1596**; hydrolysis 1722; ignition **3707**; logging costs **3425**; seasoning **804**, **1676**, **1686**; sleepers **3864**
Q. robur s.s.: annual-ring formation 1055, **3693**; breeding 94; chlorophyll content of buds 1929; culture of cambium 1957; disease 2404; early development 256; monocultures 2923; resistant to weedkillers 2363; seed ripening 2154; soil requirements 282; tannin from galls **2891**; vegetative propagation 297, 3326–7; **wood:** chemistry **668**; durability **2809**
Q. serrata **1729–32**, **3953**, **3917**
Q. sessiliflora: breeding 94; culture of cambium 1957; diseases 2404, 2415; early development 256; ecology 2061, 2063–4; natural regeneration 1111–2; vegetative propagation 297; see also *Q. robur* s.l.
Q. stellata 1430, 2364, **3975**
Q. suber: annual-ring formation 183; cork—(chemical composition) **2894–5**, (estimation of yield) 529; disease 3491; ecology 3201; hybridization 3067; in—(France) 1750, (Jugoslavia) 2256, (Morocco) 1214, (Spain) 356, 3977; mycorrhiza 164; natural regeneration 3426; stand composition 2094
Q. troiana 184
Q. urbani 1023
Q. variabilis 975
Q. velutina: disease 2399; in—(Belgium) 250, (Sweden) 256; natural regeneration 245; tannin content of bark **3975**; use of waste **3841**
Rapanea variabilis **3756**
Rauwolfia canescens **2900**
R. natalensis 3544
R. serpentina **866**, **1756–7**
Retama raetam 2160
Rhamnus frangula 2363

Rhizophora harrisonii 3154
R. mangle 3154
R. racemosa 3154
Rhizophoraceae 3120
Rhus succedanea **869**, 1142
R. javanica 3085
R. typhina 2203
Ricinodendron africanum **1655**, **2633**, **2698**
R. rautenenii **1781**, 1971
Robinia pseudoacacia: afforestation of—(arid areas in Persia) 320–1, (dunes) 315, (eroded soils) 2207, (karst) 2203, (old gravel pits) 1182, (sands) 2010, (steppe) 319; chemical control 412; disease of seedlings 2378; foliage—(Ca content) 973, (fodder value) **1741**; in —(Hungary) 3522, (Jugoslavia) 2010, 2061, 2203, 2245, 3339; nurse sp. 2208, 2210; soil fungi under 952; vegetative propagation 2181–2; **wood:** anatomy **1491**; durability **2809**; properties, general **730**; tool handles **730**
Rosa canina 2179, 2257
Roupala heterophylla 3703
Rubiaceae 3123
Rubus fruticosus 406, 1303, 1332, 2363
R. idaeus 2362

Sabia spp. nov. 3124
Sakakia ochnacea 3085
Salix 80
S. spp.: chemical control 1301, 1303, 3381; deer browsing 2428 drought-resistant hybrids 3276; osier-growing 361; palaeoecology 2040; vegetative propagation 300
S. alba 299, **614**, 2479
S. alba var. *caerulea* 2123
S. babylonica 561, 1938
S. caprea: chemical control 2363; diseases 2404, 2407; histology 101–2; on strip-mined land 312
S. cinerea 312, 2363
S. fragilis 2123
S. nigricans 2144
S. pentandra 2144
S. purpurea 2408, **3979**
S. urbaniana 1141
S. viminalis 361–2, 1162
Samanea (*Pithecellobium*) *saman* 277, 323, 1190
Sambucus canadensis 1328
S. glauca 54
S. nigra 66, **1739**, **1741**, 1929, 2363
S. racemosa 2428
Santalum album 982, 2109, **3710**
Sapindus saponaria 1190
Sapium sebiferum 1190, 3309
Sarcocephalus diderrichii **1655**, 2231, **3767**
Sarcospermataceae 3127
Sasa japonica **2859**
S. kurilensis **2859**
Saxegothaeaceae 3042
Schizolobium parahybum **2698**
Schotia brachypetala 1007
Schrebera swietenioides **1783**
Sciadopitaceae 3042
Scorodophloeus zenkeri 173, 946
Sebastiana klotzschiana 1049
Securidaca longipedunculata 1971
Semecarpus travancoricus **2911**, **4001**
Sequoia 2040
S. gigantea 310, 1123, 3253
S. sempervirens 1123, 1900, 2193, **3856**
Sessea brasilensis 3087
Shiia spp. 3650
Shorea spp. **720**, **739**, **1661**
S. albida **3887**
S. guiso **2832**
S. gysbertiana 2125, 3262
S. materialis 3205
S. negroensis **614**
S. robusta: borer damage 1368; ecology 3202–3; range 156; thinning 3373; **wood:** fungitoxic extractives **3884**; optical properties **2618**
S. rugosa 218
Sindora supa 277
Sloanea 132
S. woolsii **3756**, **3827**
Sophora japonica 2010, 2179, 2202
× *Sorbocotoneaster* 3070
Sorbus americanus 2428
S. aria **2599**, **2809**
S. aucuparia 66, **1729**, 1929, 2363
S. domestica 2257
S. sibirica × *Cotoneaster melanocarpa* 3070
S. torminalis 1922
Sorindeia madagascarensis 1190
Spartium junceum 2179, 2202
Spathodea campanulata 323
Spirostachys africana **2599**
Spondias mombin 630
Stachyurus praecox 3085
Staudtia congensis **1655**
S. gabonensis **2636**
Stephania glabra **2901**
Sterculia africana **4003**
S. alata 1190
S. appendiculata **4003**
S. campanulata **830**, **3935**
S. colorata 987
S. oblonga **1640**
S. pruriens **707**, **1487**
S. quinqueloba **4003**
S. urens **4000**
Sterculiaceae 150
Stereospermum kunthianum 114
Stilbaceae 3142
Strychnos 3113, **3690**
S. nux-vomica **1760**
Sweetia brachystachya 1292
Swietenia spp. **1483**
S. macrophylla: insect 2450; seed chemistry **4007**; trials in—(Malaya) 2125, 3262, (Philippines 262, (Puerto Rico) 259; **wood:** chemistry **2635**; crystalline deposits **1689**; general account **3675**; working qualities **3734**
S. mahagoni 259, 291
Swintonia minuta sp. nov. 127
Symphoremaceae 3142
Symplocos crataegoides 416
Symplocarpon australe sp. nov. 151
Syncarpia laurifolia **793**, **2635**
Synsepalum subcordatum 173
Syringa vulgaris 68, 1929
Syzygium guineense 114

Tabebuia sp. **1487**
T. (*Cybistax*) *donnell-smithii* 261, **614**
Tabebuia guayacan **2635**
Tabernaemontana heyneana **4006**
Tamarix gallica 315, 3013–4
T. macrocarpa p. 242
Tarrietia sp. **720**, **3677**
T. utilis **1487**, **1640**
Taxaceae 3042
Taxodiaceae 3042
Taxodium spp. 2040, 3168
T. ascendens 3218
T. distichum 1430, **1491**, 2080, 2158
Taxus 1157
T. baccata 2034, 2179, 3136
T. cuspidata 297, 3525
Tecoma chrysantha 323
T. peroba see *Paratecoma p.*
Tectona grandis: effect of *kumri* crops on 2132; fertilizer in planting holes 2194; in—(Malaya) 2125, 3262, (Zanzibar), 1190; increment 550; insects 1345, 2450; planting stock 2192; regeneration after gregarious Bamboo flowering 1043, 3249; silviculture in Java 1093; taungya plantations 3248; wildlife management in 1921; **wood:** chemistry **2635**; flooring **1595**; ignition **3707**; ship's decking **2751**; strengh properties and growth rate **1540**
Terminalia belerica **3901–2**
T. catappa 73, 1190, 3039
T. ivorensis **720**, 2450
T. sericea 1971
T. superba **1655**, **1663**
Tessmannia claessensii **1655**
Testulea gabonensis **1486**
Tetracarpidium conophorum p. 376
Tetramerista glabra **608**
Theobroma cacao 1927
Thespesia garckeana 114
Thuja occidentalis: anti-bacterial properties **3979**; cambium **3697**; deer browsing 2428; essential oil **2648**, 3029, **3996**; natural regeneration 172, 2088; posts **3808**; vegetative propagation 297
T. orientalis 276, 293, 439, 3524
T. plicata: disease resistance 439, (clonal variation in) 3054; in —(Belgium) 250, (France) 253, (Germany) 1124, 2115–6; insects 1374; leaf oil **1777**; needles, moisture retention 160; seed testing 3294; **wood:** electrical properties **1503**; fibreboard **848**, **1715**; pulping **1707**, **3769**; seasoning **3912**
T. standishii 3145
Thujopsis dolabrata **2626**, **2632**, 3145
T. dolabrata var. *hondai* 1895
Tilia spp.: afforestation of karst 2203; bark fissures **3701**; fertilizer treatment 309, 2172; insects 1360; mistletoe damage 1306; seedling mortality 3183; transpiration 66
T. americana 561, **653**, **3711**
T. cordata: culture of cambium 1957; chlorophyll of buds 1929; mineral contents 1922; mixture with Pine 232; range 3143; silvicultural characters 1031; soil improver 1198; wood chemistry **668**

Tilia japonica 3086
T. platyphyllos 1031, 1198, **1739–40**
T. tomentosa **2609**
Tipuana tipu **757**
Torresia sp. **1485**
Torreya nucifera 3145
Trema spp. 3131
T. orientalis **2861**
Trichilia 3046
Triplochiton scleroxylon **1681, 2698**
Tripterygium regelii 3085
Tristania conferta **3828**
T. moultoniana 1991
Tritomodon campanulatus 3086
Triumfetta tomentosa 1189
Tsuga 1050
T. canadensis 221, 244, 3626
T. heterophylla: diseases 2381–2, 3481; ecology 2077; in—(Belgium) 250, (Germany) 1124, 2115, (Great Britain) 1123, (Iceland) p. 241; site index 1418; squirrel damage 462; **wood:** colour precursors **3761**; pulping **1707**; seasoning **3912**; structure **3864**; tannins **1748**
T. sieboldii **736, 2811**
Turraeanthus africana **614, 787, 1487, 1655**
T. vignei **1487**

Ulex europaeus 1303
Ulmaceae 3131
Ulmus spp.: afforestation of karst 2203; diseases—(D.E.D.) 2394–5, (phloem necrosis) 2418; fertilizer trials 309; lichen flora 2347; seed pests 3514; transpiration 66; **wood:** ignition properties **3707**
U. alata 1430, 3181
U. americana: diseases 1327–8, 3485; insects 3559; mixture with Pine undesirable 2249; preferred for nesting by doves 56; reflectivity of leaves 561; seed germination 3181; tolerance of weedkillers 290; volume table 3589; winter injury 393, 3150; **wood:** chemistry **653**; flooring **2744**
U. campestris: culture of cambium 1957; fodder value of foliage **1739**; palaeoecology 2040; seed storage 3289; wood chemistry **668**
U. carpinifolia 297
U. glabra (*montana, scabra*) 2040, 2065, 3143
× *U. hollandica* 152
U. japonica **1511**
U. laciniata **1511**
U. laevis **637**, 3143
U. montana see *U. glabra*
U. parvifolia 319, 1281, 1430, p. 243
U. procera 3039, see also *U. campestris*
U. pumila 56, 3153
U. scabra see *U. glabra*
Uragoga peduncularis 1189

Vaccinium myrtillus: acidifying effect of litter 2064; defoliated by insects 3542; site indicator 30, 2048, 2063, 2996
Vangueriopsis lanciflora 1971
Verbenaceae 3142
Vitex sp. 1209
V. columbiensis **3675**
V. cooperi **609**
V. cuneata 1190
V. kuylenii **609**
Vochysia spp. **609, 2591, 3684**
V. oppugnata 3087

Weinmannia trichosperma **757**
Welwitschiaceae 3042
Whiteodendron gen. nov. 1991

Xanthocercis 3111
Xylia dolabriformis **2599**
Xylopia aethiopica 1189

Zanthoxylum flavum 259
Z. piperitum 3086
Zelkova serrata **736**, 1925, 3496
Zizyphus spp. 3119
Z. jujuba 417
Z. mucronata 1971

SUBJECT INDEX

Abscess joints 3044
Abscission *see* Leaf fall
Accidents **1241, 2297**
Acclimatization *see* Exotics
Accountancy 2157, 3651
Acetic acid **1729, 1732**
Acorns: fungal infection 423, 3513; insect attack 2444, 2482
Acoustic properties of wood **734, 3704–5**
Aerial photography *see* Surveys, aerial
Aerial reconnaissance 1388, 2046, 2547
Afforestation 236, 312–23, 1177–90, 2198–209, 3339–44; arid zones 317, 320–1; barren clays 1183; bracken-covered land 4029; burning coal-tips 1181; coral soils 1190; eroded soils 1030, 2207; grasslands 322–3, 1173, 1188–9, 2198, pp. 123–4; gravel pits 1182; heathland 326, 1186–7, 2198–201, 3340; karst 2202–3; maquis 3343, mountains 959–62, 3341–2; peatland 1197, 2200; sand dunes 314–6, 963, 1184–5, 2205–6; sandy heaths 2118; steppe 37–8, 318–9, 3339; strip-mined land 312–3, 2208–9; volcanic soils 3342; *see also* Shelterbelts and Geographical Index
Agaru **2882**
Age of trees: methods of determining 3189, 3618; relation to—(pulping qualities) **834, 836**, (quality of progeny) 2025, (seed production) 1019, (stand structure) 3625
Agri-silviculture 1106, 1180, 2240; *see also* Kumri, Taungya
Air: adsorption of nutrients from 1886; CO_2 gradients in Beech-woods 9; in trunks of living trees 436; in wood 176
Aircraft construction, wood products in **1584, 2756**
Aircraft in forestry: spraying selective weed killers 3381; transport of supplies 579; *see also* Direct sowing, Fire, Helicopters, Insect pests, Surveys
Algal parasites 3072
Alkali tolerance 3153
Alkaloids 99, **866–7, 1756–68, 2899–903, 3982–7**
Alternation 3625
Altitude and tree growth 2529, 3617; *see also* Timberlines
Aluminium in plants **3925**
Ambrosia beetles **787–8, 1665–6, 2825, 3895–8**, pp. 381–9; *see also* Bark beetles
Anatomy *see* Leaf, Wood etc. and Morphology
Animal damage *see* Insects, Mammals etc.
Anthracnose 1326, 3496–8
Antibiotics action against damping-off fungi 424
Ants: damage to seedlings 323; dispersal of seed by 1049; predators of insect pests 3519; propagation 3518; *see also* Myrmecophily
Aphids 1349–50, 3524; migration 45
Arbor days 4037
Arboreta 2254
Arboriculture *see* Ornamental trees
Arid zones; ecology 2073; *see also* Afforestation
Aroma of wood **3770**
Arsenic in plants **2653**
Artificial limbs **2676**
Aspect 3617
Assimilation *see* Physiology
Associations *see* Co-operatives
Assortments 431–3, 527, 533, 537, 1201, 1413–5, 1575–6, 2523
Atmospheric pollution *see* Fumes, Smoke injury
'Attila' brushcutter 3345
Attractants 3548–9
Auxiliary spp. *see* Nurse spp.
Auxin *see* Growth-regulating substances
Avalanches 961–2, **1273**, 1898
Axes **2296, 3414**

Bacteria: associated with insects 1910; soil 33, 2982
Bacterial diseases (of insects) 1910, 2435, 2439, (of plants) 103, 452, 2406, 3492–3
Bacterial symbiosis 1666–8, 2014, 3164–6
Bamboo: effects on succeeding crops 162; gregarious flowering 1043–4; preservative treatment **1624, 1631, 3717**; pulping 1228, **1702**, 2269–70, **2859–61**, p. 241; silviculture 2269–70; strength **1508**; water consumption 159
Bark: adhesives from **2690**; classification **3423**; diseases 1390, 2407; dust used in well-drilling **1752**; dyes from **3972**; extractives **3966–71**; fibreboard **2896**; fibres **1751**; fissures 3091; harvesting **862, 879**; insulating material from **3978**, p. 123; thickness 530, 533, 1396, 2510; *see also* Cork, Tanstuffs
Bark-beetles 509–11, 1372–4, 2483–91, 3559–66; attack trees weakened by honey fungus 2489; bionomics 2484; control—(chemical barking) 509, (osmosis method) 3560, (trap trees) 510, 2483–5, (winter burning) 510; dependence on soil climate 1373; encouraged by 'sour felling' 364; migration 3562; parasites 2487; predators 2491; *see also* Ambrosia beetles
Barking: chemical **365**, 509; compulsory p. 376; costs **3776**; facilitated by standing in water **369**; machines 8, **672–6, 1545–6, 2283–5, 2662–5, 3775**, p. 242; relative ease in different species **3422**; to increase buoyancy **1269, 2331**; tools **3414**
Basal area calculation—(by 'Treestick') 532, (by 'Winkelzahl') 1394, 2509, 3586
Basalt meal, use as fertilizer 2172, 3302
Basic slag, use for liming 1150
Bast fibres **1751, 3969**
Battery separators **3827**
'Baumvélo' 1866
Beams: fire resistance **639**; laminated **1589–90**; wood-and-concrete **3820**
Beavers: age of ponds 48; damage 1330
Bees: pasture 1229; toxicity of insecticides to 476–7, 3520, 3522
Bending, wood **695–6, 1559, 2697–8, 3800**; improved wood **767**; laminated members **2736**; plywood **711, 1560**
Berries **879**
BHC *see* Insecticides, Preservatives
Biochemistry *see* Chemical constituents of plants
Birds: control of insects by 2497, 3529, 3534, 3573; damage 471, 2419–20, 3513–4; dispersal of seeds by 171; in shelterbelts 56; light requirements 3025; population dynamics 972, 2468; protection of seeds and seed spots from pp. 133–4; toxicity of insecticides to 478, 1376, 2441
Blackberry planted for protection against deer, rabbits etc. 1332
Bleaching of wood **2700**; *see also* Pulp
'Blendersaumschlag' 3234
Blight: Chestnut 446–51, 2403; pole 524, 1387–8, 2505, 3581
Blister rust 443; breeding of resistant Pines 993, 3053; control 1323
Blue-stain *see* Stain
Boats and ships: decking **739, 2751**; species used **1489, 1604, 2750–1**; use of laminated wood **738, 2736, 3833**
Bobbins **1600**
Borers **784–92, 1662–71, 2825–31, 3892–903**, pp. 381–9; *see also* Ambrosia beetles, Marine borers and Preservation, wood
Botany: economic 166, 1954–6; systematic 103–52, 997–1028, 1958–96, 3072–113
Boxes *see* Packing containers
Bracken: and afforestation 4029; competition 972, 3170; control—(chemical 2363, (mechanical) 2213
Branch growth 1054
Branchiness 2298
Branchwood, transport of **2309**
Breeding, tree 81–99, 991–4, 1027, 1944–53, 2018, 3048–70, 3265; for—(alkaloid production) 99, (disease resistance) 449–51, 993–4, 1125, 1324–5, 1946, 2413, 3052–3,

(ease of fruit picking) 96, (frost resistance) 98, 1946, 2006, (insect resistance) 3064, (resin production) 992, progeny trials 1120–1; *see also* Hybridization, Polyploidy, Provenance, Seed, and Species Index
Bridges **3454**; wood/concrete **3820**
Briquettes **743**, **1617–8**, **2755–7**, **3836–7**, (charcoal) **1738**
Brittle heart **2850**
Broom: as nurse species 312; chemical control 2363
Brooming 2408, 2416, 3494
Brown-spot disease 427–8, 1314
Brush-cutting machines 371, 936, 2971, 3345, p. 375
Brush woodware **3829**
Bud: chlorophyll content 1929; morphology 3045; pruning *see* Disbudding
Budworm: control 2455–7, (aerial) 1356–7, 3535–6; infestation and forest composition 3538; meteorological factors 491; predators 3534; taxonomy 490
Buildings and their construction **719–27**, **1593–7**, **2737–47**, **3816–26**; acoustics **3704–5**; costs **789**; encyclopaedia **2737**; escalators **727**; farm buildings **2745–7**, **3826**; pre-stressed arches **2740**; roofs **725**; stadium seats **1597**; standards **3816**; stresses **723–4**, **3821**, p. 124; use of—(laminated members) **716**, **1589–90**, **2738–9**, (plywood) **3819**, (pressure-treated wood) **763**, (tropical hardwoods) 3817–8; *see also* Decay, Grading, Houses, Joints, Flooring, Doors, Beams etc.
Bulldozing **366**
Bundling **2323–4**, **2327**, **3445–7**
Buoyancy **1269**, **2331–2**, **3448**
Burning: early or prescribed 403, 1297, 1299; effects on—(regeneration) 1108, 1165–6, 1298–9, (seed supply) 2359, (soil) 402, 2358, 3468; for site preparation 1108, 1165–6, 2187, 3244, 3331, 3333; slash 1298; *see also* Fire, Flamethrowers

CABLEWAYS **378–82**, **1249–52**, **2304**, **3429–31**, pp. 4–9
Calipering 1402, 2514
Calipers 914, 1393, 1402, (for measuring planting stock) 2175
Callus formation **1497**
Cambial activity **2602**; *see also* Phenology
Cambium, cell division **631**
'Campos cerrados' 3221
Canker: of conifers 439–41, 444, 3488; of hardwoods 446–53, 1307, 1321–2, 2043, 2387, 2402–6, 3491–3; *see also* Blister rust; Rusts, stem
Canker stain 445
Carbide-tipped tools **678**
Carbonization of wood: relation to coal formation **1537**, **1733**, **2654**; *see also* Distillation
Card-sorting methods **616**, 1452, **2596**, **3591–2**
Catchment areas, management of 906, 1819–20, 1902–3
Cell wall *see* Wood anatomy, Wood chemistry
Cellulose: chemistry **664–7**, **1526–9**, **2644–5**, **3748–53**; in tension wood **664**; *see also* Hemicelluloses, Holocelluloses
Chafers: attraction by fluorescent lamps 3567; control 512–4, 1374, 2492–6; damage by adults 1375
Chaparral, seed germination in 1053
Charcoal: briquettes **1738**; burning and regeneration 1105; density **1730**; kilns **858–60**, **2885**, **3956**; suitable species **3958–61**; thioreactivity **3957**; use in—(gas-generators) **861**, **1735–7**, (smelting) 3958; yield **758**, **1729–31**, **1734**, **3955**; *see also* Distillation
Checking, in veneer **2852**
Chemical constituents of plants 57–61, 68, **865–72**, **973–83**, **1131**, **1533–68**, **1922**, **2898–905**, 3028–9, **3979–90**; taxonomic interest 3063, 3105; *see also* Alkaloids, Cork, Gutta, Oils, Resin, Tannins, Wood
Chemotherapy 1320
Chermes 481, 1346–8, 2446–7, 3523
Chestnuts: fungal infection 422, 3474; production 1225, 3401
Chiclé **1784**, **4004–5**
Chipboard **845**, **3945**, **3949**, p. 576; binders **844**; chippers **3948**; classification, testing etc. **843**; corestock **3944**; dry process **2877**; from—(sawdust) **3950–1**, (tropical timbers) **3818**, (waste wood) **847**; preservative treatment **846**; suitable species **831**, **3818**, **3946**; *see also* Fibreboard
Chippers, portable **1620**
Chlorophyll: content of buds 1929; research p. 376
Chlorosis 3560–1
Choice of species 250, 1120–3, 2110–27, 3252–4
Chokers **1255**
Christmas trees 2255
Chromosomes *see* Cytology
Chutes **368**, **2971**, **3428**
Cigarette paper **838**, p. 123
Clear felling, progressive strip 237, 1107, 1111
Climate: homoclimes 2121, 2976, 3089; in Abyssinia 891; influence on—(outbreaks of forest insects) 491, 493, (vegetation) 154, 939, 1036, 1823, 1871–4, 1899–1900, 2529; lichens as indicators of 941; *see also* Forest influences, Dendrochronology, Microclimate etc.
Climbing devices 1866, 3281–2
Clinometer 528
Coal formation in relation to carbonization of wood **1537**, **2654**
Colouring, autumn 2046, 3062
Colouring wood **1601**, p. 516
Combustion of wood **639–40**, **3706–8**
Comminution, resistance of wood to **2696**
Compensation: for powerline right-of-way 4035; *see also* Valuation, forest
Competition 972, 3242–3; from—(cover crops) 1192, (grass) 237–8, 1193, 3346, (other ground vegetation) 1053, 1108–9, 2214, 3176, 3346; *see also* Light, Root
Compost 283, 2201; sawdust **2758–9**; seedlings grown in 1151, 2173
Compression wood **631**, **647**, **2611–2**, **2850**
Cone(s): age and seed production 2025, 3178; insect pests 2475; source of tanning materials 1742
Conferences pp. 123, 240, 374, 514; Chestnut 929, 4049; forest products 2582; forestry 885, 922, 927–8, 1805, 1853–4, 4045–8; Poplar 1855, 4050; pulp 815–6
Conversion: coppice to high forest 223, 1096, 3238; even-aged to selection forest 2091; hardwoods to conifers 1097–8, 2092, 3238; irregular shelterwood to selection system 1432; mixed to pure stands 2093, 3228; pure to mixed stands 1198, 2053, 3234, 3239; scrub to high forest 1214; unmanaged to managed forest 1448
Conversion scale 3582
Cooling towers, deterioration of wood in **1598–9**
Cooperage 729
Co-operatives 910, 1833–6
Coppice: conversion to high forest 223, 1096, 3238; increment 550; management 1096, 1225
Coppicing, factors affecting 248; *see also* Regeneration, natural
Cork: chemical composition 975, **1749**, **2894–5**; forecasting yield 529; industry **1750**, **3977**; *see also Quercus suber* in Species Index, and Geographical Index
Corrosion of metals by wood **3769**, **3851**
Cost accounting 2157, **3668**
Costs, logging *see* Logging costs
Cover crops 238; ill effects on Poplar 1192
Cranes 937
Crates *see* Packing containers
Cross-arms **700**, **3857**
Crosscutting in the forest **368**
Crown: form 2030–2, (and occurrence of epicormics) 2033; projection 3603–4; relation to—(basal area) 3377, (increment) 174–5, (stem volume) 3604
Cruising *see* Enumeration, Volume
Cull losses in the forest 431–3, 1414, 2381–2, 2391, 3478–9
Cultivation, soil 318, 1198, 2129–30, 3346; effects—(on soil moisture) 1196, (unfavourable) 3277
Cultivators 914, 1865–6, *see also* Ploughs
Curvature of stems 178–9
Cuttings *see* Propagation, vegetative
Cytology 87, 989, 1946–9, 3056–9, 3176

DAMPING-OFF: action of antibiotics against 424; chemical control 1311–2; factors favouring 1310; organisms 1312–3; prevention *see* Nurseries, soil sterilization

Day length *see* Photoperiod
'DDT' *see* Insecticides, Preservatives
Dead trees: fungus flora 3193; hygrometric rôle of 2974; insect populations 970–1, 3194; microclimate within 173, 3194; moisture content **3713**; regeneration on 2103
Decay in trees 430–8, 1280, 1316–7, 2380–93, 3478–86; correlation with age and diameter 433, 2381–2, 2387, 2391, 3478–9; *see also* Cull, Fungus diseases
Decay in wood **773–83**, **1650–60**, **2808–22**, **3878–88**; assessing **2809**, **3880**; detection—(by drilling) **2811–2**, (by X-ray) **776**, (electrically) **2810**; effect of soil type in graveyard tests **2809**; in buildings **783**, **2804**, **2813–4**; pipe rot **3887**; *see also* Durability, Preservation, Rot fungi
Dedication of woodlands 568, 907
Deer: damage 172, 466–7, 1336, 2424–8; feeding habits 51–5; fencing against 1117, 1333, 2429; no effect on regeneration of Hazel 2016; repellents 1334–5, 3508, pp. 130–1
Defects **811**, **1688–9**, **2848–54**, **3924–5**; *see also* Brittle heart, Checking, Discolouration etc.
Deficiency, nutrient 2346, 3460–1; diagnosis 395
Defoliation: effects 3188; *see also* Insect pests
Dendrochronology 1431, 2537; *see also* Rings, growth
Dendrometers, dial-gauge 1427, 2538
Density of wood **646–7**, **719**, **721**, **827**, **1269**, **1507**, **2659–60**, **3718**, **3721**; *see also* Specific gravity
Derelict stands, treatment of 223, 345–6, 1214, 2241–2, 3389–90
Desert, immobilization of 963
Desiccation, relation to—(drought) 160, 3032, (winter injury) 2006, 3150
Dew: effect of shelterbelts on 349; general studies 1870, 2973
Diameter: classes 527; errors in calculation 3583; inaccurate calipering 2514; instruments for measuring 526, 914, 1393–4, 1402; mid-diameter, calculation of 3584–5; *see also* Increment
Die-back 2379, 2401, 2506, 3487; *see also* Species Index
Dielectric heating *see* Gluing, Seasoning
Dies, improved wood **766**
Diffusion of liquids and vapour through wood **2607**, **2625–6**, **2707**, **2765**, **2768–9**, **2835**, **3716–7**
Direct sowing 239, 1165–9, 1223, 1292, 2136, 2187–91, 2254, 3251, 3288, 3330–3; drillers 914; from aircraft 1168, 2189–90, 3332, p. 243; 'nests' 318, 2248; of—(conifers under hardwoods) 2092, (germinated seed) 2109, (Mangroves) 240; on—(burnt and screefed patches) 1165–6, 2187, 3331, 3333, (savanna) 1188; protection from rodents 456–7, 1167–8, 2190–1, 3502–3; tools 1169; work studies **1237–8**, **3427**
Disbudding 343–4; costs 2240; effect on—(increment) 174–5, 3386, (rooting of cuttings) 3327; injurious effects 2239
Discolouration of wood *see* Stain
Disease *see* Damping-off, Decay in trees, Deficiency, nutrient, Die-back, Fungus diseases, Virus diseases
Disorders due to unidentified causes 438, 524, 1387–90, 2505–6, 3581; *see also* Die-back
Distillation, wood (destructive) **856–61**, **1729–38**, **2883–8**, **3955–63**
Documentation, forestry 911, **1473**, 1837
Dodder 416–7
Doors: plywood **737**; testing **1593–4**, **3822**
Dormancy 3035
Dowax 3334
Drainage 1197, **3455**; use of explosives **389**, **1274**, 1866
Drought: cracks 435; effects 160, 1284–5, 2340, 3032
Dry areas *see* Afforestation, and Arid zones
Dry rot **783**, **2804**, **2814**, **3886**
Drying: gas-generator fuel **2886–7**; insulator board **1717**; *see also* Seasoning
Dunemann system *see* Nurseries
Durability of wood 118–9, **719**, **721**, **758**, **778**, **793**, 1010, **1538–9**, **1643**, **1655**, **1661**, 1973, 2040, **2655–6**, **2760**, **2809**, **2818**, **2832**, 3082–3; testing **1538**
Dutch Elm disease: control 2395; meteorological factors 2394; transmission 3559
Dyeing *see* Colouring

EARLY and late wood **627**, **629**, **632–3**, **646**, 1055, 1429–30, **1510–1**
Ecology, animal 48–56, 970–2, 1919–21, 3023–7; population problems 972; *see also* Birds, Deer, Soil fauna etc.
Ecology, plant 153–214, 1029–88, 1997–2081, 3134–221; classification 209, 1079, 2038, 2047–54, 3197; methods of study 29, 195–6, 3147–9; of artificial communities 197; symbols for description of communities 2045, 2047–8; terminology 209, 2038, 2047, 3197; text book 3195; *see also* Forest types, Rain forests, Vegetation etc.
Economic botany 100, 141, 1954–6
Economics, forest 569–76, 1453–8, 2554–8, 3643–52
Edge effects 55, 3025
Education 810, 912, 1838–40, 1868, 2952, 4038–40, p. 243
Electrical properties, wood **641**, **693**, **1503–4**, **2810**, **2841**
Electron microscope: for study of—(fungi) 105, (wood anatomy) **1494**, **2611**, **3695**
Elk damage 268, 464
Embryo development 3293
Embryology, plant 73, 988–9, 3041
End-sealing compounds **2847**, **3921**
Enrichment of tropical forest 2211; *see also* Line-planting
Entomology, general: insect populations of dead trees and stumps 970–1; trapping 45; use of radioactive tracers 3023; *see also* Insect
Enumeration surveys 538–9, 553, 1403–12, 2521–2, 3593–7; *see also* Cruising
Enzymes **656–8**, **3740**
Epicormics: measures to prevent 3249; on pruned trees 2238; origin in dormant buds 3187; relation to crown dimensions 2033
Erosion: causes 40–1, 2503, 3010; control 40–2, 217, 958, 1293, 1906, 3010–2; effect on site quality 545; from logging roads 40, 3009; legislation 2948–50; *see also* Afforestation, Infiltration, Shelterbelts, Shifting cultivation
Evaporation 956, 2250–1; measurement 36; *see also* Forest influences
Exotic animals 50–1; *see also* Squirrels, grey
Exotics: dangers of afforestation with 3160; trials of 253, 258–9, 1128–9, 2125, 3261–4, 3268–9; *see also* Geographical and Species Indexes
Explosives: use for—(drainage works and stump removal) **389**, **1274**, 1866, **2289**, **3452**, (launching logs) **3452**; (making planting holes) 1171, (splitting wood) **2289**, **3424**, **3452**
Extraction *see* Hauling, Skidding, etc.
Extractives *see* Wood extractives

FAO: Conferences etc. 810, 815, 885, 928–9; constitution 1856; notes on work of pp. 123, 240, 514; publications 2962
Farm woodlands 1827, 2221–3, 2244; *see also* Private forestry
Felling: axes **2296**, **3414**; by methods other than axe or saw **366**, 1118; direction **2275**; research **2274**; season 364; *see also* Logging; Saws, logging
Felling site, clearing of **366**, **370–1**, **2288–90**
Femelschlag 3235
Fences: electric 2429; post driving 470; types **701**; wattle 469
Fertilizer(s): animal manure 309; aspirin + trace elements 309; basalt meal 1174, 1198, 2172, 3302; coal dust 309; lignite 1149; limestone 1198; night soil 2220; slaughter-house offal 2220; Urea N 3349
Fertilizing: at time of planting 309, 1172–3, 2194; in the forest or plantation 325, 1198, 1867, 2172, 2216–20, 2346, 3353–4; natural regeneration 3349; nurseries 310, 747, 1149–50, 2172, 3301–3; use of indicator spp. in trials 951; *see also* Compost, Liming

Fertilization *see* Pollination
Fibreboard **841–51**, **1713–19**, **2866–80**, **3944–51**, p. 242; Armorboard **2872**; binders **849–51**, **2873**; continuous wet process **2876–7**; dimensional stability **1718**, **2873**; drying **1717**; Fibracel **2866**; fire danger **2870**; from—(bark) **2896**, (branchwood) **3947**, (resinous wood) **2874**, (waste wood) **847–8**, **1608–10**, **1713–4**, **2877–80**; heat treatment **2879**; physical and mechanical properties **1713**, **1718–9**, **2868–9**, **2879**; semi-dry process **2872**, **2877**; statistics **588–9**, **592**, **595**; suitable species **831**, **1716**; testing **841–2**; uses **1588**; wet-batch process **2875**, **2877**; *see also* Chipboard
Fibres: bark **1751**; vegetable **2921**
Figure of wood **3700**
Finishes, wood **697**, **1689**, **2699–707**, **2852**; *see also* Paints
Fire and succession 2077–8, 2080; *see also* Burning
Fire control 396–400, 405, 1287–96, 2354–5, 3463–7; *see also* Burning, Fire fighting, Radio, Helicopters
Fire damage 401–2
Fire danger 2351–2, (forecasting) 2353
Fire detection: aerial reconnaissance 398; equipment 1294
Fire fighting 1295; equipment 1865, 2355, 3467; sirens on aircraft to summons crews 3465; use of parachutists 399; with water bombs 400
Fire insurance 4036
Firebreaks: equipment for making 8, 1296, 3464, 3466, p. 125; erosion control on 1293; kept free by chemicals 405; planted 1130, 1292; ploughed 3464
Fireproofing **768–9**, **2800–3**, **3869–73**
Firewood *see* Fuelwood
Fires, forest: causes **1236**, **2351**, **3462**
Fish, noxious effect of pure Spruce on 224
Flamethrowers 936
Fleco treecutter 366
Floating and rafting **386–8**, **1265–71**, **2323–34**, **3438–51**; barges **3451**; boom boats p. 243; booms **1270–1**, **3449–50**; bundling **2323–4**, **2327**, **3445–7**; in 'convoys' **2326**; launching **3439–40**, (by explosives) **3452**; lifting logs from water **2334**, **3441**; marking timber for **386**; rafts and rafting **387**, **1265–6**, **2327–9**, **3442–3**, (sea-going) **1267–8**, **2330**, (tree-length) **2328–9**, **3444**; salvage of sunken logs **2333**; season **2332**; sinking prevention of **1269**, **2331–2**, **3441**; sorting **2334**; storage of water by freezing **2325**; warping boats and tugs **388**; *see also* Flumes
Flooding, effect on root development 3168
Flooring: hardwood **716**, **3823**, (plywood) **2744**, (veneer) **2741**; panel-heated **1596**, **2742–3**; parquet **3824–5**; tests **1595**
Floras, *see* Geographical Index
Floral anatomy 3047
Flowering: effect on cambial activity 3192; gregarious 1043–4; *see also* Phenology
Flumes **2303**
Flushing *see* Phenology
Flux, Elm: fauna 3039
Fodder: holocellulose **3942**; leaf **3964**; oil-seed cake **2918**; trees and shrubs 1224, 2243, 2253, 2258; *see also* Yeast
Fog drip *see* Precipitation, occult
Foliage: adsorption of nutrients from air 1886; diseases 425–9, 454–5, 488, 1324–6, 2409–15, 241, 3495–9
Food and Agriculture Organization *see* FAO
Forest administration 577–8, 1459–64
Forest influences on: climate 13; evaporation 13, 955; infiltration and run-off 34–5, 37–8, 1902, 1905, 2980, 3006–8, 3342; quality of water 39, 224; snow movement 3005; soil temperature 35; streamflow 957, 1903–4; waterlogging 3006; wind velocity 13; *see also* Microclimate, Shelterbelts
Forest law 901–7, 1830, 2943–50, 4034–5, (yearbook) 2947, 2962
Forest policy; principles 885; *see also* Geographical Index
Forest protection 391–524, 1275–1390, 2337–506, 3456–581
Forest types: identification by autumn colouring 2046; *see also* Rain forest, Vegetation etc., and Geographical Index
Forestry: as a career 1858; general textbooks 1857–8, 2960–1
Form, stem 1397–8, 2511–2, 3615; effect of stand density on 3338; *see also* Taper
Frogs as insect predators 2497, 2501
Frost heaving 2106
Frost injury 392–4, 1281–3; cracks 394, 1282–3, 2339; to bark 1281; to seedlings 3270; *see also* Winter injury
Frost resistance 3270; *see also* Breeding
Fruit trees in the forest 2257
Fuel plantations 1216
Fuelwood: conversion **1242**, **3424**; harvesting **367**, 576; loss of weight in drying **1677**; statistics **2566**, **2568**; testing value of **640**; use in locomotives **3804**; *see also* Waste wood
Fumes, industrial 410; *see also* Smoke
Fungi: associated with insects 511; bibliography 1965; chemical activities 72, 777, 1322: dispersal of spores 1966; entomophagous 481; in forest soils 952; in—(India) 104, (Japan) 1308, 3073, 3473, (New Guinea) 3074; laboratory studies 69, 440, 1963; light requirements 1310, 3475; moisture requirements 1319, 2391; morphology and taxonomy 423, 425, 2378, 3489; nutrition 71; saprophytes 2404, 3079; sex and compatibility 70, 998; sporulation, prevention of 448; study under electron microscope 105; systematic studies 104–8, 997, 1958–64, 3073–9; temperature requirements 1319, 2391; *see also* Mycorrhiza, Rot fungi, Stain fungi etc.
Fungicides: $Al_2(SO_4)_3$ 1312; Bordeaux mixture 1326, 3349; Ceresan 1312; Cosan 429, 3477; $CuSO_4$ 1311; pyroligneous acid 1312; Uspulun 1312
Fungus diseases 421–55, 1307–26, 2375–415, 3473–99; control—(girdling) 3483, (inarching) 449, (painting roots) 2388, (pruning) 1323, (silvicultural) 2387, (spraying) 455, (wound painting) 3486; infection—(and frost injury) 441, (by insects) 1318, 2394–6, 3559, (from stumps) 2401, 3482–3, (meteorological factors) 453, 1319, 2391, 2394, 3497, (season) 2406, (through dead branches) 2404, (through wounds) 435, 441; of—(insects) 481, 2435, 2492, 3516, 3547, (mistletoe) 3472, (seeds) 422–3, 3474, 3513; textbooks 421, 2375; *see also* Breeding, Canker, Chemotherapy, Decay etc.
Furniture manufacture: design **2749**; standards **735**, **3817**, **3832**; tests **1603**
Fused-needle disease 2345–6, 3459

Gall-forming insects 1385, 2432, 2497, 2502, 3523–4, 3574, 3576–8
Game *see* Wildlife
Gas-generators **861**, **1735–7**, (drying fuel for) 2886–7
'Gaugewood' **766**, **2796**
Geese, used to keep down weeds in nurseries 2177
'Gelam' soils 1891
Genetics 91–9, 987, 989, 1950, 2030–2, 3055, 3068, 3280; *see also* Breeding, Cytology, Hybridization
Girdling: effect on increment 174–5; for starch depletion 3483; of weed trees 338; termite-infested trees 1345; time studies 337, 1206, 2233, 3377; tools 1207; with power-saw 1206; *see also* Poisoning
Girth: increment 551; *see also* Diameter
Glossaries: ecological terminology 2038, 3197
Glue joints: strength and durability **715–7**, **2735–6**; study by X-rays **711**; testing **1581**, **2731**, **3796**
Glues and gluing **684–94**, **1552–7**, **2679–95**, **3790–9**
Glues **684**: animal **2679**; (blood albumin) **686**, **2680–2**; (fish) **2680**; bark **2690**; casein **690**, **716**; cashew-nut **689**; cotton seed-meal **1554**; durability **1555**, **2735**; extenders **686–7**, **3798**; kapok-seed cake **1552**; Kaurit

687–8; peanut-meal **1554**; sunflower-seed **1553**; synthetic resins **715**, **2683–8**, **2695**, **2797–8**, **3794–5**, **3797–9**; tannins **3793**; testing **688**, **2731**; X-ray examination **711**
Gluing: control **691**; dielectric **693**, **1557**, **1561**, **2693–4**, **2844**, **3749**; glue-spreader **1556**, **2692**, **3789**; hardening **692**; high-frequency *see* dielectric; hot-presses **714**, **2691**; rapid **690**; R.F. heating *see* dielectric; staining **694**; viscose **2689**; with cold-setting glues **715**
Goat damage 468
Grades, relation of log and lumber **1575–6**
Grading **597**; logs **691–3**, **2855**, **3926**, (veneer) **1690**, **2854**; lumber **721–2**, **812–4**, **1694–5**, **2856–8**, **3927–31**; pulpwood **817**, **3932**; training for **810**; *see also* Standards
Grafting: use in tree breeding 81–2, 96; *see also* Propagation, vegetative
Grain **1500**, **1513**; sloping **3924**; spiral **1566**
Grass: competition 237–8, 3346; cutter 937, p. 241
Grazing and pastures 352–3, 2252–3, 3397–9; effect of selective logging on 2252; effect on soil moisture 25; improvement 317, 345, 352, 406, 409–11, 880, 2365–7, 2372–3; management 1221, 3397, 3399; mountain 2529, 3399; weeds 3007; yields 3398; *see also* Burning, Erosion, Regeneration, natural, Weed trees and shrubs, Fodder
Green manuring crops 2201, 2216–7, 3301, **3965**; ill effects 2167
Gregariousness 1104
Ground flora *see* Burning, Competition, Vegetation
Groundwater: influence of forest on quality of 39
Growing season 157, 181, 1430, 2532, 3149; *see also* Phenology
Growing stock 562–4, 2549
Growth: habit 1054; *see also* Increment
Growth-regulating substances 102, 1937–8, p. 242; distribution in the tree 174; in male and female flowers 3192; rôle in canker formation 1322; use in resin tapping 3406; use in vegetative propagation 296–8, 310, 1162, 2179, 2181–2, 3316, 3319–20, 3323, 3326; *see also* Weed killers
Gums **877**, **1782–4**, **4003–5**
Gutta percha **878**, 2268
Gypsy moth 496–7, 1362–3, 2463–8, 3548–9

Habit of growth 1054
Handles, tool **730**
Hardboard *see* Fibreboard
Hare: damage 172, 323; repellents pp. 131–2
Hauling: by—(logging arch) **1259**, (lorry) **383**, **1253**, **2315–8**, (lorry and semi-trailer) **1254**, (lorry and sledge) **2317–8**, (monorail) **1264**, (sulky) **1260**, (tractor) **1263**, (tractor and sledge) **1261–2**, **2319**; pneumatic *vs.* iron tyres **3434**
Heartwood: false **2617**, **2622**, **2849**; formation **1497–9**, p. 240; frost heart **2617**; methods of distinguishing **2618**; per cent and density **1269**; *see also* Wood chemistry
Heather: cause of check in young conifers 2214; *see also Calluna* in Species Index
Heathland: regeneration of plantations on 237–8; site types 30, 1186; *see also* Afforestation
Height: curves 533; formulae for measurement of leaning trees 528; instruments for measurement 1394–5; *see also* Increment
Helicopters: spraying from 1301, 1397, (equipment) 3458
Hemicelluloses **665–7**, **1527–9**, **3751**
Herbicides *see* Weed killers
Heterosis 88, 99
Hi-Ball method of tree felling 1118
'Hi-den' **766**
High-lead yarding *see* Cableways
Histology 101–2, 1957, 2917, 3071; *see also* Wood anatomy
Hole diggers 1865–5, 3336
Holocelluloses **2644**, **3942**
Homoclimes 2121, 2976, 3089
Honey, collection and processing **4008**
Honey fungus 2383, 2489, 2817
Honeydew 46–7
Hormones *see* Growth-regulating substances, Weed killers
Horses, care of and use in skidding **1243**
'Hospitalization' of planting stock 2211
Houses, wooden: dimensions of timbers **722**; tropical hardwoods **3818**, p. 240; *see also* Buildings
Humus: chemical composition 1882, 1887, 2979, (pH) 3155–7; development 1881; effect of stand composition on 564, 2008–11, 2064, 3155–9; effect on damping off 1310; nitrification 238; raw—(activation) 1038, 2984, (formation) 2983, (methods of incorporation into soil) 1882
Hybridization 88–93, 3067–8; and oleoresin analysis 90; and taxonomy 89; natural 91–3, 996, 1017, 3065–6, 3069
Hybrids: intergeneric 3070; seed weight 995; *see also* Species Index
Hydrological research 34–9, 954–7, 1898–1905, 3003–8, 3010
Hydrolysis of wood **852–4**, **1608–9**, **1720–2**; use of residues from **1723–4**
Hydroponics 62, 1923–5
Hypsometers 1394–5

Identification: bibliography 1972; diagnostic value of—(leaf characters) 1979, (twig) 1014; of seedlings 130, 1012; of seeds 1012; *see also* Keys
Ignition temperature **3707**
Illumination *see* Light
Improved wood **766–7**, **1644–5**, **2790–9**, **3865–8**; bending **767**; laminated **766**, **2796–8**; machinery **2799**; *see also* Strength
Improvement fellings *see* Release
Inarching 449
Increment 547–55, 1420–32, 2530 40, 2542–4, 3609–19; by tree classes 2542–3; curves 1420–3, 3609; diameter—(by diameter classes) 1426, (distribution vertically) 174, (factors affecting) 2532, 2538, (measurement) 1427, 2538, (seasonal) 1429; effect of—(crown size) 174, (defoliation) 175, 3188, (disbudding) 174–5, (girdling) 174–5, (pruning) 3188, (soil moisture) 3152, (stand density) 3265, (weight of foliage) 176–7; girth 551; height 1054, 2036, 2340, 2532, 2535, 3152, 3617; quality 2539; radial *see* diameter; rate 3228; volume 176–7, 1432, 2530, 2535, 2539, (and stand density) 2531, 2537–8, (estimation) 2533, (irregular) 3619; *see also* Dendrochronology, Rings, growth, and Species Index
Increment borings 553–4, 1528–9, 2536
Indicator species 30, 32, 941, 951, 1109, 1176, 1186, 1876, 1997, 2993–6; *see also* Site quality
Infiltration and run-off *see also* Forest influences
Infra-red: measurement of CO_2 exchange 65; reflectivity of foliage 561
Insect pests of trees 44–7, 472–520, 964–9, 1338–84, 1907–18, 2430–502, 3017–21, 3510–76; bionomics 483, 486, 1349, 1365, 1382, 3528, 3531; cocoons 1917; control—(aerial) 474, 1356–7, 2457, 2460, 2465–6, 2499, 3536, 3550, (biological) 482, 491–2, 506–8, 516–9, 1341, 1362, 2448, 2467, 2473, 2492, 3024–5, 3569, *see also* parasites, predators, (chemical *see* Insecticides), (costs) 504, 514–5, 3560, (hand picking) 498, 2458, (legal measures) p. 376, (light traps) 3639, 3567, (sex attractants) 3548–9, (silvicultural) 1371, (trap logs and trees) 500, 510, 2483–5, (with blow lamps) 2462; distribution maps 1907; feeding habits 967, 1916; forecasting outbreaks 2474; hibernation 3020; keys 1913, 3019; laboratory rearing 968; larvae, determination of sex rates 1915; meteorological factors 491–3, 967, 1373, 1911, 2476, 3528, 3531, 3547; migration 45; nomenclature 338; of cones 2475; of seeds 489, 499, 1344, 1384, 2433–4, 2444, 2478, 2482; oviposition 2469; parasites 492, 496, 506–8, 516–8, 965, 1354, 1361–2, 1909, 1918, 2456, 2473, 2487, (bacterial) 1910, 2435, 2459, (fungal) 481, 2435, 2492, 3516, 3547, (lichen) 3526; population sampling 484, 494, 2452, 3555;

predators 496, 964, 966, 1909, 2467–8, 2491, 2497, 2501, 3527, 3529, 3534, 3573; pupal stage 965, 1912, 1917, 3018; reproduction 3021; site conditions 1343; trapping 46; virus diseases 497, 519, 2435, 3568; *see also* Bark beetles, Budworm etc., and under names of host trees in Species Index
Insect pests of wood **784–95, 1662–74, 2825–31, 3892–906**; methods of study **3892**; *see also* Borers, Termites etc., and Preservation, wood
Insecticides: accidental injury by 479; aldrin 476; arsenical 475, 509, 3450, 3560; 'BHC' 476–9, 486, 496, 504–5, 512–5, 1347, 1353, 1364, 1376, 1379, 1382, 2437, 2439, 2476, 2481, 2483–5, 2495, 3521–2, 3524, 3557, 3561, 3570; chlordane 476–7, 485, 2437; 'DDD' 479; 'DDT' 476–9, 486, 496, 504–5, 905–10, 512–15, 1347, 1353, 1356–8, 1362–3, 1376, 1382–3, 2437–43, 2460, 2464–6, 2472, 2476, 2481, 2483–5, 2493–6, 2499, 3521–2, 3535–6, 3539, 2541–2, 3557, 3561, 3570; dichloroethane 505; dieldrin 476–7, 3541; dinitro cresol 1359; dusts 2438; Dynocid *see* 'DDT'; 'E 605' *see* parathion; effect of temperature 3558; endrin 3541; Gammexane *see* 'BHC'; Gesarol *see* 'DDT'; heptachlor 476; Lindane 485; nicotine 475, 1352, 3525; nomenclature 2436; Osmolit U 3560, 'osmosis method' 3560: Pantakan *see* 'DDT'; Paratex 504; parathion 476, 485, 504–5, 1364, 2437, 2500, 3524–5, 3540, 'PDB' 2496; pyrethrin 3570; rotenone 1353, 3570; systemic *see* parathion, Systox, thiophosphates; Systox 485; 'TEPP' 479; testing permanence 2439; thiophosphates 475, 509, 521, 3570; toxaphene 476–7, 2437, 3541; toxicity to—(bees) 476–7, 3520, 3522, (man) 2440, (soil macrofauna) 3521, (wildlife) 478, 1376, 2441–3, 3520; 'TTC' 3570; Zn fluosilicate 509
Insolation *see* Sunscald
Insulating material **3978**, p. 123
Insurance *see* Fire insurance
Interception 13, 3003–4
Intercropping *see* Agri-silviculture
Interlocking fibres **1513**
Isotopes *see* Radioactive isotopes
Ivy, control of 420

JOINTS: dovetailed **3789**; dowelled **683, 1551, 3788**; mortise-and-tenon **2678**; nailed **682, 1550, 2632**; *see also* Glue joints
Juvenile forms 1050, 3179

KEYS: insects 1913, 3019; seeds and seedlings 1012; *see also* Wood identification and Species Index
Kilns *see* Charcoal, Seasoning, Seed
Kinos **1785–6**
Knot-hole plugging **2702**, p. 124
Knots: beneficial to life of sleepers **1640**; effect of stand density on 3338
'Krilium' 16, 1878
Kumri crop, ill effects on Teak 2132

LABOUR, forest: costs **3425**; general problems 925; *see also* Accidents, Wages, Work studies
Lac 3411
Ladders 937, 1139, 1866
Laminated wood: bending **2736**; coachwork p. 243; fatigue testing **717**; improved wood **766, 2796–8**; rollers **3828**; ships timbers **738, 2736, 3833**, p. 125; *see also* Buildings, Glues and gluing, Plywood
Laminates, paper and composite **1587**
Land use 898–9, 1822–3, 2131, 4028–31; classification from air photos 2548, 3634; mapping 1433; *see also* Erosion, Grazing etc.
Lâsso-Cable p. 6
Late wood *see* Early and late wood
Laterization 950
Latex **2911**, 3407, **4005–6**; *see also* Gutta, Rubber
Lathes 937
Layer communities 180, 1059, 1890, 2347–8, 2993, 3072, 3198
Layering, natural 172
Leaders, replacement of 1042
Leaf: anatomy 77, 132, 3046; diurnal variation in sugar content 68; morphology 78, 990, 1942; thickness 1941; variation 1016; *see also* Fodder, Foliage, Needles
Leaf fall 3044, 3062
Leaf miners 487–8, 2432, 2454, 3571
Leaning stems, height measurement 528
Leases 3649
Legumes as soil improvers 238
Lichens: indicators of—(atmospheric pollution) 2347–8, (climatic factors) 941, (site quality) 30; parasitic on scale insects 3526; vertical distribution 1059, 2347–8
Light: artificial—(logging by) **2301**, (rooting of cuttings by) 301; influence on—(distribution of birds in the forest) 3025, (seedling survival) 1052, 1112, 2104; relative illumination—(effect of wind on) 11, (effects of) 2972, (in broadleaved forest) 12, (measurement) 914; *see also* Photoperiod
Lignification **657–60, 1521–3**, 1957, 3071, 3317, 3523, 3574, 3577–8
Lignin: artificial **656**; chemistry **654–63, 1515–26, 2637–43, 3739–49**; determination **1515**; extraction **1518, 1525–6, 2637, 3744**; from—(decayed wood) **658–9, 2639–40**, (waste liquor) **1725, 1728**, (wood-hydrolysis wastes) **1723–4**; solvents **1517**; spectroscopy **661, 1519, 2638, 3739, 3741–3**; utilization **1712, 1723–5, 1728, 2641–2**
Lignite as fertilizer 1149
Lignotubers 1041
Liming 1317, 2216–7, 3351; ill effects 3351; methods of application 2217; with basic slag 1150, 2172
Line planting in tropical forests 1194, 2212
Litter, forest: amount produced by different species 20, 24, 946, 2980; chemical composition 18, 20, 946, 973, 2980, (pH) 2008; decomposition 19, 945, 953, 2982–3, 2997, 2999; effect on—(groundwater) 39, (soil biological activity) 2982; inhibition of germination by extracts 2981; leachates 943, 1880, 2985–6; methods of analysis 23; microflora 1895; soil relations 944
Lizards as insect predators 2497
Loading: by means of skidding winch **1257–8, 1265–6, 3437**; into barges **3451**; machinery 8, 938, **1254–6, 2302**, 2971, **3435–6**; *see also* Bundling
Locomotives: cause of forest fires 2351, 3463; use of wood fuel **3804**
Log(s): protection in the forest **788–9, 1663–7, 2830–1, 3899**; *see also* Dead trees, Grading, Storage, Timber measurement
Log ponds, prevention of freezing p. 243
Log rules *see* Timber measurement
Logging **363–77, 1234–42, 2271–90, 3412–24**; by artificial light **2301**; costs **376**, 576, **1236 1239–40**, 1336, 1371, 2557–8, **3425**, 3644, 3650; damage 523, 1386, 2504, 3579–80; equipment, other than saws 8, **366–8, 1243, 1246–64**, 2971, **3414**; in mountains **2273**; mechanization **2271–2**; organization **2273**; waste **2286–7**; work studies **372–7, 1239, 2296–8**; *see also* Saws, logging, Barking, Felling, Hauling, Skidding, etc.
Logging arches **1259**
Longevity of trees 3190
Longhorn beetles 500, **789, 1667–8**
Loopers 493–4, 2442
Lorries 8, 936, 2971; *see also* Hauling
Lubricating oil from stumpwood **3954**
Lumber *see* Timber
Lupin 2201, 2217, 3301
Lyctus *see* Borers and Preservation wood

MAMMALS, damage by 48–55, 172, 239–40, 268, 456–68, 1117, 1130, 1167–8, 1191, 1329–37, 2190–1, 2419–29, 3027, 3183, 3332, 3399, 3500–9, 3513–4; *see also* Cattle, Deer, Rabbits, Rodents etc.
Management, forest 562–79, 1438–65, 2549–59, 2638–53; textbook 1438
Mangroves 3200: artificial regeneration 240; bark **2893**; leaf fodder **3964**; succession 190; working plan 567, 3224; *see also* Species Index
Manna, tapping for 3409
Manures *see* Fertilizers

Mapping: land use 1433; soils 2992; vegetation 196
Maps 931–2, 2967–8, 2977; dot-reading overlays 2545; forest regions and rainfall 1088; insect pests 1907; land use 4028; soil 947–9, 2989, 2991; vegetation 1067, 1082, 3022
Marine borers **1661**, **2823–4**, **3889–91**, p. 241; *see also* Preservation, wood
Marketing **580–94**, **1466–72**, **2560–70**, **3655**
Marking: axe *vs.* paint 1450; substitute for **3421**; with paint **363**, **386**, **1234**, **3413**
Match stock **3645**
Maturity, financial 3362
Mechanization of forest operations: bibliography 1116; *see also* Logging, Nursery practice etc.
Medicinal plants 100, **865**, **868**, **1753**, **2898**, **3979–81**; see also Alkaloids
Mensuration, forest 525–61, 1391–1437, 2507–46, 3582–637; bibliography 1392; textbooks 525, 1391
Mesquite *see* Weed trees and shrubs
Metal detectors 937
Meteorology: instruction of forestry students in 1868; *see also* Climate, Fire
Méthode du contrôle 1432, 2539, 2542, 3237, 3642
Mice-repellents pp. 132–3; *see also* Rodents
Microclimate 9–14, 955, 1869, 2062; CO_2 gradients in air 9; in cleanings 2975; in tropical rain forest 211; methods of study 1869; round dead trees 2974; temperature gradients 10, 940; within decaying logs 172; *see also* Forest influences, Shelterbelts
Mildew 429, 2415, 3477
Mine timbers: fire-retardant treatment **2803**; general account **698**; statistics **583**, **1469**; strength **699**, **3805**; *see also* Preservation
Minor forest products **862–79**, **1739–86**, **2889–921**, **3964–4008**
Mistletoe: control 418, 2374, 3471; fungal parasite of 3472; hosts 417, 419; toxicity 1306
Mites 521–2, 3577–8
Mixtures 225–33, 2097, 3240; beneficial effect on soil 226, 3157; *see also* Nurses, Underplanting
Moisture, wood **642–4**, **647**, **797–8**, **1595–6**, **2162**, **2620–6**, **3709–17**; adsorption **2620**, **2624**; effect on strength **1512**, **2656**; in living trees 176, 2006, **2622**, 3150; methods of measuring **1504–5**, **2621**, **3709**, (meters) p. 375; of dead and living wood 176; seasonal variation **3711**; *see also* Diffusion, Seasoning, Shrinkage
Moles as insect predators 2497
Monocultures *see* Pure crops
Monorail **1264**
Moose, aerial census 1919
Morphology, plant 74–80, 990, 1940–3, 3042–7
Mosaics transmitted by seed 95
Moss(es): adverse effect on regeneration 2105; ecology 3198; indicators of site quality 30, 2993; vertical distribution on tree stems 1059
Motor mowers 937, 1866
Mulching with—(sawdust) **747**, **1619**, **3840**, (wood chips) **1620**
Municipal forests 2941–2
Musical instruments **732–4**
Mycorrhiza 163–5, 1040, 2012–3; respiration 3163; uptake of phosphorus 165, 3161–2
Myrmecophily 1049
Myrobalans **855**
Myxomatosis 1331

Nail - holding properties **2616**, **2632**, **3729–32**, (creosoted wood) **3732**, (fibreboard) **2869**
Naval stores *see* Resin, Turpentine
Nectar secretion 3038
Needle blight 425–6; *see also* Brown-spot disease
Needle cast 994, 1324–5, 2410–3, 2541
Needle-miners 483–6, 1354, 2452–3
Needles: area and weight 176–7; desiccation and rehydration 160, 3032; number per whorl 3189; seedlings grown in compost of 1151; *see also* Foliage, Leaf
Nematodes 1156, 3001
Nicotine *see* Insecticides
Nitrogen: metabolism 3036; fixation 166–8, 2014, 3164–6
'Nkunku' 1215
Nomenclature: insects 338; timbers, vernacular names 116–9, 1970, 1973, 1984, 3081–4
Nomograms 3587
Nun moth 2469–71, 3550
Nurse and auxiliary spp. for—(broadleaved spp.) 320, 1198, 3238, (Pine) 312, (Spruce) 238, 326, 3185
Nurseries and nursery practice 279–304, 1117–9, 1143–64, 2108, 2157–86, 3251, 3262, 3266; cost accounting 2157; 'Dunemann system' 1151; lay-out 2165–6; mechanization 116, 1143, 1148; protection 395, 424–6, 504, 512–5, 1155–6, 1160, 1311–2, 2167–71, 2496, 3314, 3316, 3475–7, 3515; shade 3475; site preparation 1118; soil treatment — (acidification) 282–3, (krilium) 16, 1878, (sterilization) 283, 1156, 2168–71, 3314; sowing 284, 3305–10, (covering) 1152, (density) 3307–10, (in compost) 1151, 2173, 3306; swamp species 2164; transplanting 307–8, 2174, 3312, (pots for) 3251; watering 284–7, 310, 2173, (with sea water) 285–6; weed control 287–94, 1153–4, 2176–7, 3313; wrenching 1118; *see also* Damping off, Fertilizing, Mulching, Planting stock, Seed
Nutrients, plant: form of N 3036; seasonal variation 1931–3; uptake 63, 984; *see also* Deficiency, Soil(s)
Oil plants 2259
Oils: damar **1775**; essential **1776–81**, **2906**, **2912–7**, **3996–9**; flotation 2909; seed **875–6**, **2910**, **4000–2**, p. 376, (cake) **2918**; *see also* Turpentines
Oleoresins 873, 1769; analysis for determination of hybridity 90
Opossums: in New Zealand 50, 467
Optical properties of wood **842**, **1502**, **2618**
Ornamental street, and roadside trees 354–5, 1222; injured by salt applied to icy pavements 1286
Osier-growing 361–2
'Osmolit U' 3560
Osmosis method of applying insecticides 3560
Osmotic pressure of cell sap 986
Ownership 900, 1824–7, 2940–2, 4032–3
Oxygen requirements of plants 62, 1924–5

Packing containers: 'Cartobois' **1587**; pallets **2748**; preservative treatment **1635**, **2775**, **3868**; veneer **728**, p. 376; waterproofing **3873**
Paint-holding capacity of wood **2649**, **3801**
Paints and painting **2706–7**, **2776**
Palaeoecology 185–7, 1056–7, 2039–41, 2172, 3196
Paper, cigarette **838**, p. 123
Paper manufacture *see* Pulp and paper
Parasitic angiosperms 415–20, 1306, 2374, 3471–2
Parasites *see* Insect pests of trees
Pasture, classification 3197
Patanas pp. 123–4
'Pathentbiegeholz' **767**
Pathology: forecasting disease 1307; research 2376–7; textbooks 421, 2375; *see also* Fungus diseases etc.
Peatlands: classification 1889, 2994–5; *see also* Afforestation
Pencil wood **636**, **1601**
Phenology 180–4, 1055, 2036–7, 3191–2; cambial activity 181–4, 2037, 2602, 3192; chemical content of leaves etc. 973, **1739**, 1929–33, 2009; diameter growth 181; flowering 1043–4; flushing 180, 1873, 2036, 3062; growing season 3149; height growth 181, 2036; leaf—(autumn colouring) 2046, 3062, (fall) 3062; osmotic pressure of cell sap 986; *see also* Dormancy, Rings, growth
Phloem necrosis 2418
Phosphorus uptake by mycorrhizal roots 3161–2
Photogrammetry *see* Surveys, aerial
Photoperiodism 3149; experiments on seedlings 157; genetical bases 1953
Photosynthesis 1930; relation to root growth 3167
Phototropism 3149
Phylogeny 1025
Physiology, plant 61–72, 984–7, 1923–38, 3030–40; annual review

61; assimilation 1928; chlorophyll content of buds 1929; CO_2 exchange 9, 65; heartwood formation **1497–9**; movement of water 1926; nutrient content, seasonal variation 1931–3; nutrient uptake 63, 984; osmotic pressure of cell sap 986; oxygen requirements 62, 1924–5; sterility 987; water—(balance) 159, 1927, (uptake) 985, 3031; *see also* Growth-regulating substances, Mycorrhiza, Respiration, Translocation, Transpiration

Pigs: damage by 3509; *see also* Wild boar

Pipes: plywood p. 124; tobacco **1602**

Pitprops *see* Mine timber

Plant chemistry *see* Chemical constituents of plants, Wood chemistry

Plantation- *vs.* naturally-grown wood **1501**

Plantations *see* Afforestation

'Plantcote' 2193

Planting: hole-digging 1171, 1865–6, 3336; machines 936, 1116, 1118, 1176, p. 516, (*vs.* hand-planting) 305; methods 1170–1, 3251, 3262; stock—(basket) 1189, 2192, (grading) 2175, 3311, ('hospitalization') 2211, (lifting) 307–8, 2174, (pot plants) 306, (root pruning) 307, 2178, (size) 258, (stumps) 1189, 1292, 2192, (treatment to prevent transpiration) 1292, 2193, 3334, (tubed) 307, 3329; time studies 2195; tools 1175, 3335; tubes, ill effect of galvanized iron 3329; *vs.* direct sowing 2109; *see also* Afforestation, Spacing

Ploughs 305, 914, 3348, (for lifting seedlings) 2174

Plywood: aircraft quality **1584**; arches **2740**; bending **711**, **1560**; cores **1586**, **1588**, **2733**; deflexion 1509, **1583**; doors **737**; floors **2744**; from resin-tapped wood 2267; manufacture **3813–4**, (machinery for) **714**; moulding **1561**; piping p. 124; preservative treatment **3860**, **3901–3**; silos **2746–7**; stacking **1585**; surface finishing **712**; testing **1582**, **2731–2**; uses in building **3819**; waterproof **715**; *see also* Glues and gluing, Laminated Wood, Strength, Veneer

Poisoning of trees 339, 1207–6, 3375–84; costs 2233; methods of application — (aerial spraying) 3381, (frill girdling) 1208, 2233, 2236, 3378–9, 3382, (holes in stem) 413, 1210, (notches) 2233, 2236, (stumps) 2233, 3382–3; time studies 3377, 3384; to facilitate bark removal **365**, 509; tools 2236; *see also* Weed trees and shrubs

Pole blight 524, 1387–8, 2505, 3581

Pole-peeling machines 8

Poles; effect of brown stain on strength **1647**; inspection by X-rays **776**; selection **3806–7**; seasoning **3009**; twisting **1566**; *see also* Preservation

Porcupine damage 1330, 1337, 3500, p. 243

Posts: drivers 470; species and types **701**; strength **3808**; *see also* Preservation

Pots 3251

Powder-post beetle **1671**, **2828**, **3896**

Power-line rights of way: compensation for 4035; control of vegetation on 2368–9

Precipitation: occult 1899–1900, 2973; *see also* Dendrochronology, Forest influences, Rainfall, Snow

Preservation of: bamboo **1624**, **1631**, **3717**; blue-stained wood **3874**; chipboard **846**; cross-arms **3857**; mill work **759**; mine timbers **760**, **2774**, **2786**; packing-case timber **1635**, **2775**, **3868**; plywood **3860**; poles **1641**, **2784–5**, **3854–6**, (standing) **2785**, **3856**, (twisted) **1566**; posts **702**, **758**, **1566**, **1642–3**, **3732**, **3858–9**; sleepers **761–2**, **1640**, **2708–10**, **2787**, **3864**, **3888**; structural timber **763**, **2788–9**; vapour-dried wood **1621**

Preservation, wood **748–65**, **1621–43**, **2760–89**, **3845–64**; against—(ambrosia beetles) **788–9**; (borers) **790**, **2783**; (marine borers) **1633**, **2824**, **3890–1**, p. **241**, (stain fungi) **770–1**, **1635–6**, **2807**, **3874**, **3877**; application—(brushing) **3861**, **3888**, (diffusion) **758**, **2781–2**, **3856**, (dipping) **2777**, **2780**, (pressure) **761**, **1640–1**, **2772**, **2778**, (soaking) **758**, **1642–3**, **3858–9**, (ultrasonic) **3844**, (vacuum) **759**, **2779**; bibliography **748**; early and late wood **3853**; effect of—(barking) **3855**, (blue stain) **3874**, (growth rate) **2784**, (moisture content) **3854**, (water storage before treatment) **3885**; plant **749**, **2778–80**, (mobile) 703; re-impregnation of standing poles **2785**, **3856**; service records **2761**; settling tank **3845**; study with X-rays and radioactive tracers **3853**

Preservative-treated wood: corrosion **3851**; determination of moisture content **2621**; gluing **2735**; nail-holding power **3732**; painting **2776**; safe loads **763**; sampling **2782**; seasoning of treated poles **1566**; strength properties **2775**

Preservatives, wood: aldrin **2830**; anthracene **3847**; arsenical **1633**, **1643**, **2766**, **2772–3**, **2784**, **3890–1**, p. 241; ASCU **1635**; 'BHC' **788–9**, **2828**, **3900–2**; Boliden salts **1633**, **3863**; boric acid **1635**, **2781–3**, **2802**, **2807**; boron **1634**; Carbolineum **1630**, **1643**; Celcure **2786**; Cellusan **2775**; chloronaphthalene **3850–1**; Cobra salts **3856**; creosote **1566**, **1621**, **1640**, **1643**, **1652**, **2766–7**, **3847**, **3852**, **3863**; Cu compounds **779**, **790**, **1636**, **1642**, **2764–5**, **2771**, **2776**; 'DDT' **764**, **790**, **2828**, **3899**, **3901–3**; dehydration and cleansing of **3845**; detection in wood **754–5**, **1634**, **2782**; dichromates **2766**; dinitrophenol **1632**; fluorides **762**, **1632**, **2766**, **2806**, **2820**, *see also* Wolman salts; fluosilicates **2766**, **2773**, **3849**; Fluralsil **3888**; Gammexane *see* 'BHC'; iron pyrites **1630**; mercuric chloride **753–6**, **2766**, **2784**, **3853**; method of action **752–3**; monochlornaphthalenes **2829–30**; oils **1621**, **1630**, **2766–9**, (penetration of) **2768–9**; Osmol WB **2785**; pentachlorophenates **758–9**, **765**, **1637**, **1641–2**, **2764**, **2776**, **2807**, **2821**, **2829–30**, **3847–8**, **3852**; Pentoxane *see* 'BHC'; Phenoxane *see* 'BHC'; phenoxyacetic acids **3846**; Pine root oil **1638**, **3852**; rating **1628**; recovery of solvents **2776**; resins **1639**, **2777**; study of distribution in wood **750**; Tanalith **760**, **2774**; testing **751**, **2762–6**, **2829**—(distribution) **750**, **1641**, (leachability) **2766**, (match-stick method) **3861–2**, (penetration) **754–5**, **757**, **3854**, (retention) **2765**, (sapwood-disc method) **3877**, (toxicity) **752**, **756**, **1639**, **1652**, **2829**, **3861–2**; thixotropic gel **2770**; Wolman salts **760**, **1631**, **2774**, **2786**, **3854**, **3863**; wood tar **1621**, **1630**, **1660**; Xylamon **3851**; Zn compounds **1633**, **2765–6**, **2771**, **2775**, **2802**

Private forestry *see* Co-operatives, Farm woodlands, and Geographical Index

Processionary moths 1364–6, 2472–4, 3551

Producer gas *see* Gas generators

Progeny trials 1120–1, 3275

Propagation of trees and shrubs: in water culture 62, 1122, 1923–5 with roots in nutrient mist 3030

Propagation, vegetative 295–304, 1157–64, 2179–86, 3315–28; cuttings—(and age of tree) 296, (artificial lighting) 301, ($CuSO_4$ treatment) 299, (dormancy breaking) 3323–4, (from strangulated branches) 2180, (fungicidal treatment) 3316; (in continuous spray) p. 516, (in different media) 295, 297, (in water) 1122, (leaf-bundle cuttings) 3328, (root development) 3317, (season) 295, 3320, (sphaeroblast shoots) 3327, (sterilization) 1160, (variation of photoperiod) 3324–5; grafting 81–2, 96, 301–4, 1163–4, 1946, 2186, (inarching) 449; setts 2183–4; *see also* Coppicing, Growth-regulating substances

Protection, forest 391–524, 1275–1390, 2337–506, 3456–581

Provenance 2112; and frost resistance 3270; and pollen 84; and seed weight 1136; trials 254, 256, 263–5, 1133–5, 3271, (working plans for) 3272–3; *see also* Species Index

Pruning 340–4, 1211–3, 2227, 2237–40, 3251, 3385–8; bud-pruning 174–5, 243–4, 2239–40, 3386; costs 340, 3265; effect on—(borer attack) 3353, (epicormic branching) 2238, (increment) 174, 341, 3188, 3386–7, (stem form) 341; manual of 3385; natural 342, 3388; season 3387; wounds—(fungal infection) 342, 1211–2, 3388, (healing) 1211–2, 3388; *see also* Wound dressings
Pulp: bleaching **824**; brightening **1706**; cleaning **3938**; effect of—(age of tree) **834**, **836**, (decay) **781–2**, **792**, **1658–9**, **3481**, (extractives) **833**, **837**, (growth rate) **820**, (knots) **823**, (position of wood in tree) **823**, (steam temperature) **2864**), (wood moisture) 1709, (wood structure) **623**, 835; groundwood **830**, **834-6**, **1706**; mechanical see groundwood; mixtures 3934; sulphate **824**, **1703**; sulphite **1703**, **3934**
Pulp and paper **815–40**, **1686–1712**, **2858–65**, **3932–43**; bibliography **1698**; effects of industry on forestry **1699**; materials other than wood **828–9**, 1228, **1700–2**, 2270, **2859–60**, **2862**, **2893**; statistics **588–92**, **815**, **1470–1**, **1475**, **1611**, **1696–7**, **2567**
Pulpboard see Fibreboard
Pulping: bamboo **1702**, **2269**, **2859**, p. 241; chippers and chipping **817**, **3937**; continuous **1708**; decayed wood **781**, **1658–9**, **3481**; hardwoods **830–40**, **1702–4**, **1707**, **1710**, (tropical) **2862**, **3935**; heartwood **823**, **826**; lignin in relation to **816**, **3936**; mechanical **816**, **818**, **831**, **2864**, (machinery for) **2863**, **3937**; mixtures **1702**; orchard waste **838**; pretreatment **3939–40**; resinous wood **823**; sawdust **1705**; semi-chemical **1707**, **2865**; sodium **819**, **821–2**; stained wood **818**, **820**; sulphate **816**, **823**, **825–6**, **839–40**, **3940–2**; tension wood **2851**; with—(aliphatic acid) **1711**, (amyl alcohol) **1710**, (butanol) **1710**, (ethyl glycol) **1710**; *see also* Waste liquor
Pulpwood: barking **2665**, **3938**; bundling **2324**; floating **1271**, **2331**, **3446–8**; handling **808**; launching **3440**; lifting from water **3441**; loader **3435**; preservative treatment in the forest **3900**; sawmill waste **741**; standards **3932**; statistics **584**; storage **781–2**, **1656–7**, **3933**; *see also* Pulping, and Geographical and Species Indexes
Pulpwood logging **377**, **2272**, **3415**, **3421**
Punched cards *see* Card-sorting systems
Pure crops: cause of soil degradation 31; harmful effects on streams 224; *see also* Conversion

Rabbits 459–60; myxomatosis 1331; no effect on regeneration of Hazel 2016; protection against 1330; repellents 458, 1331, pp. 131–2
Races: altitudinal 1952, 2128; physiological 180, 256, 266, 2036, 3063–4; *see also* Species Index
Radiation: balance of 1869; heat, injury from 2341
Radioactive isotopes, use in study of—(insect populations) 3023, p. 516, (preservatives) **3853**, (translocation) 1387, 3033, pp. 242–3
Rafting *see* Floating
Railways: for timber extraction **2320–2**; waggons **736–7**; *see also* Sleepers, Locomotives
Rain, removal of nutrients from tree tops by 1886
Rain forest 212, 3219; classification 209–10; degraded and secondary 1084; monograph on 211; silviculture 1090; sub-tropical 2081
Rat repellents pp. 132–3
Rationalization *see* Work studies
Reaction wood **2850**; *see also* Compression wood, Tension wood
Reclamation of derelict woodland 345–6, 1214, 2241–2, 3389–90
Recording of data 1410, 1452, 2520, 3591–2
Reflectivity of foliage 561, 3637
Regeneration: artificial *vs.* natural 238, 2100; site preparation 2238, (manipulation of canopy) 238, 241, (removal of moss) 2105, (removal of stumps) 1288–90, (removal of vegetation) 1118, (scarification) 2105–7, 3247, (use of weed killers) 406, 413; *see also* Burning, Cultivation, Taungya, Slash disposal
Regeneration artificial *see* Nurseries and nursery practice, Planting, Sowing, and Species Index
Regeneration, natural 241–8, 1104–19, 2101–7, 3242–50; by—(coppicing) 248, 3250, (layering) 172, (suckering) 3339; density 1113, 2101; effect of—(grazing) 1108, 2104, (logging methods) 243, (moss layer) 2105, (soil moisture) 3185–6; on fallen logs and stumps 2103; on old fields 324; *see also* Burning, Competition, Light etc. and Species Index
Regeneration surveys 1195, 2215, 3347
Relascope 1393, 2509, 3586
Release by spraying from the air 3381
Release cuttings 241, 335–6, 2232–3, 3376–7
'Re-logging' *see* Felling site, clearing of
Rent 569
Repellents 458, 1331, 1334–5, 3503, 3508, **3770**, pp. 129–36
Reproductive behaviour 170–3, 1042–53, 2016–7, 3171–86; *see also* Propagation, Regeneration etc.
Research: forest products **596**, **1476–8**, **1480**, **2580–2**, **3670** p. 376; forestry 913–21, 1841–8, 2953–5, 4041–3, pp. 123, 125; Poplar p. 516; soil p. 125 *see also* Geographical Index
Reservation 4033
Resins **873–4**, **1769–74**, **2906–9**, **3991–5**; breeding for yield 992; chemistry **873**, **1770–1**, **3992–3**; distillation **1769**, **2908–9**, **3994–5**; natural **874**; uses **1772–3**
Resin-tapping 357–9, 1226–7, 2260–7, **2907**, 3402–6; chemical stimulation 357–9, 2261, 3404–6, (effect on tree vigour) 2262; effect on wood 359, 2262, 2267; freshening 2264, 3402; length of cycle 357, 2263; spiral gutter 1227; tools 1226–7, 2260, 2264–6, 3404; use of growth substances to heal streaks 3406; yield 2260–1
Respiration 1925, 3034–5
Rings, growth: discontinuous 3618; formation 182–4, 1055, **1429–30**, 2037, 3191; pattern in Larch 555; proportion of early- and late-wood **633**, **646**, **1429**, **1510–1**, **2657**, 3191; relation of width and age to number of rays **2610**, **2657**; *see also* Dendrochronology
Roads and road-building 1465, **3453**; all-weather *vs.* seasonal **2557**; erosion from 40, 3009; ice and snow **1272**; in mountains **2273**; influence on microclimate 940; spacing 576; surfacing **2335**; wooden p. 124
Roadside plantations **2246**
Rodents: control of sawfly by 2497; damage to regeneration 172, 1130, 2423, 3183; protection of seeds and seedspots from 239, 456–7, 1167–8, 2190–1, 3501–3, pp. 131–3; *see also* Rabbits etc.
Root(s): adventitious 1940, 3168, 3189; competition 3169, 3185–6; diseases 437, 2386–93, 3480–4; growth when iron pan is present 1039; hairs 3184; pruning 307–8, 2178; relation of growth to photosynthesis 3167; rot 260; sap 63; swellings 1041; systems 169, 1085, 2015, 2027–8, 2103, 3166, 3169, 3184–6, 3189, 3340; winter injury 393; *see also* Bacterial symbiosis, Mycorrhiza
Rooting depth 544, 2343
Rot *see* Decay
Rot fungi 430–5, 437, **774–5**, 1280, 1309, 1316–7, **1538–9**, **1599**, **1621**, **1650–60**, 2377, 2380–93, 2489, **2639–41**, **2789**, **2808–12**, 3073, 3478–86, **3861–2**, **3876**, **3878–88**, **3921**, **3933**; amylases **3883**; antagonism between **2816–7**; cellulase and invertase **3884**; creosote-tolerant 1652; culture media 3882; identification by type of damage **3878–9**; preservation in mineral oil **774–5**; production of acids by **777**, **1653**, **2819**; virulence of test strains **1651**
Rotation 3228, 3231, (financial) 572
Rubber **4006**, (research) 360
Rulers **3828**
Run-off *see* Infiltration
Russel effect *see* Optical properties
Rust diseases: stem 442, 2408; *see also* Blister rust, Cankers etc.

Saccharification *see*, Hydrolysis wood
Salt, common: ill effects on trees 1286
Salvage *see* Logging waste
Sample-plot: permanent *vs.* temporary 1406; shape 3597; technique 1408, 3591, 3595, 3620
Sampling methods: in tropical forest 538–9, 1409–11; insect populations 484, 494, 2452, 3535; intercept method 1403; natural regeneration 1195, 2215, 3347; standardization 2521; stratified 2522; *see also* Statistical method, Surveys, forest
Sand dunes: ecology 198, 2059; effect of afforestation 2010–1; effect of vegetation on groundwater 39; fixation 314–5, 963, 1184–5, 2205–6, 3013–6; vegetation 316
Sandwich structures **1588**, **2734**, **3815**, p. 241
Sap: amylolytic action 1934; effect of temperature on flow 64; medium for pollen germination 84; osmotic pressure 986; root 63
Saprophytes 3079; change to parasitism 435, 3487
Sapwood: method of distinguishing **2618**; physical properties **2617**, **2622**; porosity **2624**
Savanna: enrichment 1189; formation 3211, 3221; recolonization 1215; vegetation 3220
Sawdust: adobe **3843**; burning **742**; briquetting **743**, **2755–6**, **3836** composting **2758–9**; concrete **3842**; handling and transport **740–1**, **3835**; hydrolisation **854**; mulch **747**, **1619**, **3840**; *see also* Chipboard, Waste wood
Sawflies 516–9, 1379–83, 2498–501, 3568–70, 3573
Sawmilling **704–6**, **1567–76**, **2666**, **2711–24**; 'ARI' system **1573**; curved, elliptical etc. logs **706**, **1568**; frame sawing **706**, **1568**; gang sawing **705**; high speed **2672**, **3779–80**; log size and outturn **2718–9**; mill studies **1547**, **1574–6**, **2718–21**; overrun **2718**; power consumption **2667–8**, **2672**, **3777**, **3780**; rip sawing **2721**, **2723**; tropical hardwoods **2633**
Sawmills: **597**, **703–4**, **1567–73**, 3412; carriages **2714**; estate **703**; lay-out and design **1569**, **2713**; location **2576**; 'portable' 1232, **2715**, **2971**; timber conveying, sorting etc. **1572**, **2716**, **2724**; timber stacking **2724**
Saws, logging: design and testing **2276–7**; power **376**, **1235**, 1865, **2278–81**, 2971, **3415–20**, (electric) **2282**, **3418–9**, (measuring device attached to) **3421**, (possible source of fires) **1236**, (safety precautions) **3420**; work studies **373–5**, **2281–2**
Saws, milling **677–80**, **1547–9**, **2666–75**, **3777–87**; band 8, **680**, **2668**; carbide-tipped **678**; chain **2673**; circular **671**, 937, **2667**, **2672**, **3778–9**; compressed air handsaw **2669**; controlled-cut 8; frame **706**, **2670–1**, **2674**, **3781–5**; gang **705**; hydraulic tensioning **2670**, **3783–4**; setting **679–80**, **2671**, **3785–6**; sharpening etc. 938, **1549**, **1571**, 1865, **2674–5**, **3787**; tooth shape etc. **679–80**, **1547**, **2633**, **2674**, **3785–6**
Scale insects 482, 1351–2, 2448, 3525–7
Scaling *see* Timber measurement
Scarification *see* Regeneration: site preparation
Scrub, converson to forest 1214
Sea water, watering with 285–6
Seasonal variation *see* Phenology
Seasoning **796–806**, **1675–86**, **2835–46**, **3908–20**; air **1269**, **1677**, **2716**, **3909–10**; bibliography **796**; boiling in oil **1686**; 'centrifugal' **3918**; chemical **2846**, **3919–20**; 'contact' **802**, **3812**; dielectric **803–4**, **2841–5**; discoloration during **2853**; effect of—(length of log) **364**, ('sour felling') **364**; fuelwood **2887**; high-frequency *see* dielectric; high-temperature **1680–4**, **3912**; kiln schedules **805–6**, **2836**, **3818**; kilns **1684**, **2840**, **3915–6**, (continuous *vs.* discontinuous operation) **2839**, (heat consumption) **1685**, **2839**, (loading equipment) **1678**, **3914**, (piling in) **3917**, (portable) **2887**, **3915**, (ventilation) **799–801**; pre-treatment **1679**, **2838**, **3829**; pulpwood **1657**; radio-frequency *see* dielectric; theoretical studies **797–8**, **1676**, **2835**, **3908**; vapour **1680–1**, **2769**, **2776**, **2833**, **3670**; *see also* Veneer
Seasonal aspects of vegetation 194
Second-growth stands: durability of wood from **778**
Seed: alkali tolerance 3153; cleaning 1140, 3825; collection 268, 2018, 2133–4, 2139, 2158, 3298, (equipment) 1138–9, 1866, 3281–2; dewinging 2140, 3284; dispersal 171, 1047–9, 2022–3; dormancy 3293; extraction 266, 268, 2133, 2139, 3286–7; fungus attack 423, 3513; germination 1943, 2021, (cell division) 1936, (changes in reserve nutrients) 1935, (factors affecting) 172–3, 274, 1051, 1053, 2141, (inhibited by Spruce litter) 2981, (lipolysis) 3037, (physiology) 3293, (testing) 2151–6, (time) 2024; hard-coated 2149–50; identification 1012; marking for experimental use 3304; morphology 1943; pests—(birds) 2419–20, 3513–4, (insects) 489, 499, 1344, 1384, 2433–4, 2478, 2482, 3513–4, (mammals) 463, 2419–20, 3507, 3513–4 *see also* Rodents; production 2020–1, 3178, 3278–80, (age of commencement) 2019, (and cone age) 269, 2025, 2139, (induced) 1944–6, 2138; ripening 3177; storage 271–2, 2133–4, 2136, 3289, (cold) 274, 1141, 2142–4, 3288, (controlled relative humidity) 2144, 3289, (with desiccating agents) 1141, 3289; supply 270, 916, 2135; testing 2158, 3294–6; treatment 2158, 2161, 2253, (alcohol) 278, (chemical) 276, 1142, 2160, 3291, (infra-red) 275, (light) 3292, (mechanical) 2148, 2150, (soaking) 273–4, 277–8, 2147, 2150, 2160, (stratification) 272, 2145, 2151, 2173, 3331, (with fungicides) 2148, 3291, (with growth substances) 2146, 3290, (with rodent repellents) pp. 132–3; viability 3283; water absorption 2026; weight 995, 1136, 1943, 2135, 2508, 2161, 3178, (and soil fertility) 2141, 2161, 2508
'Seed orchards' 2137
Seed planters *see* Direct sowing
Seedtrees: selection 267, 1137; spacing 2018
Seedling(s): abnormal 1939; alkali tolerance 3153; development 256, 2025; diseases 422–9, 452, 1155, 1310–5, 2167–9, 2378–9, 3349, 3474–7, (effect of shade) 3475; effect of seed weight on 1136; identification 130; light requirements 1112; moisture requirements 2026–7; nutrient contents 1931–3; rodent damage 172, 3183; root systems 2027–8, 3184–6; survival, factors effecting 1052, 2029, 2106, 3180, 3182–3, 3185–6; vigour and time of germination 2024
Selection forest: conversion to 2091; increment and yield 2542; principles of management 1095, 2090, (in small units) 3237, (in the tropics) 3236; *see also* Méthode du contrôle
Selective cutting: costs, and effect on regeneration 3232; to diameter limit 2089
Serodiagnostic investigation of taxonomic relations 3105
Sex: attractants for trapping insects 3548–9; distribution 123, 3174–6; in fungi 998; relation to cambial activity 3192
Shelterbelts 17, 348–51, 1217–20, 1818–20, 2247–51, 3391–6, p. 241; birds in 56; for livestock 3396; in dune fixation 315; influence on—(crop diseases) 351, (crop yields) 348–9, (dewfall) 349, (out-crossing in corn) 1220, (water-table) 1901, (weeds) 349, (wind speed) 348; 'nest' sowings 2248; soils under 350; species for 2006, 2223, 2247, 2249, 3150, 3153, 3254, 3343; water relations of trees in 2250–1; wind-tunnel studies 3391
Shelterwood systems 1105
Shifting cultivation 347
Ships *see* Boats
Shoot growth 74–5, 3042–3
Shrinkage and swelling of wood 176, **645**, **2660**, **2662**, **2707**, **2906**, **3712–5**, **3719**
Silica in wood **2651**
Silos, plywood **2746–7**

Silvicultural systems 220–35, 1095–9, 2087–98, 3230–41
Silviculture: bibliographies and reviews of literature 215–6, 2082; research 1089–90
Site preparation *see* Regeneration
Site quality 542–6, 1867, 2528–9, 2532, 3605–8, 4017–8; classification by—(chemical composition of needles) 546, (ecological factors) 1867, 1875, (log length) 235, (plant indicators) 29–31, 189, 543, 939, 941, 1109, 1186, 1188–9, 1876, 1997, 2993–6, (root characters) 1875, (soil characters) 543–4, 546, 1419, 1875, 3606–8, (stand density) 543; deterioration 545; effect on wood quality 2005; mapping 542; of immature stands 1418; of selection forest 2542; spectra 29
Skidding **384**; branchwood **2309**; cable-and-winch **1252**, **2305–8**, **3432**; chute **3428**; damage **1243**, **1248**, **1386**; hand **1245**; tractor **2312–4**, **3433–4**; tree-length **1244**, **2313**; wheelbarrows **1243**, **1246**; wheels 938, **2310–1**; *see also* Cableways, Hauling, Winches
Skyline *see* Cableways
Slash disposal 239, 1107, (burning) 1298, 2352, 3468
Sledges **1261–2**, **2317–9**
Sleepers: barking **2664**; extending service life **2709**, **3864**; glued **2695**; good effects of large knots **1640**; species **2710**; 'spike killing' **3731**; statistics **2708**; *see also* Preservation
Smoke: indicators 2347–8; injury 2349–50
'Smoke jumpers' *see* Fire fighting
Snow: cause of compression failure in living trees 1279; depth 954, 1901; movement on slopes 3005; *see also* Avalanches
Soil(s): 'biological activity' 2009, (effect of foundry slag) 1150, (effect of litter) 2982; calcareous 942; chemistry 61, 350, 402, 546, 942–4, 973, 1879, 1886–7, 1891, 2009–11, 2344, 2358, 2978–80, 2984–5, 3157 *see also* pH; classification 948, 2992; degradation 31; depth 25, 544; effect of—(afforestation) 350, 1038, 2008–11, (fire) 402, (stand composition) 3155–60; fertility 3606, (effects on tree seed) 2141, (maintained by adsorption from air) 1886; formation 16, 199–200, 1038, 1885, 1983–4; freezing 954; gley horizon 2343; improvers 16, 1198, 1878, 2210; leaching 943, 1880; macrofauna 953, 1896; maps 947–9, 1989, 2991–2; microbiology 33, 946, 952, 1310, 1876, 1892–5, 2997–8, (effect of insecticides) 3521, (effect of partial sterilization) 2169, (methods of study) 2998, (succession) 3000, 3191; moisture 15, 37–8, 217, 1196, 1373, 1877, 1901–2, 3006–8, 3152, 3185–6; nitrification 2009; nutrients 18–20, 39, 944, 946, (adsorbed from air) 1886; pan 1038–9; parent rock 1073, 2063–4; permeability 37–8; pH 1877, 2008, 2062, 2064, 2073, 2993, 3155, 3157, (correlation with ground vegetation) 1079, 2993; podzolization 19–21, 943, 2985–6; porosity 1196, 2343, 3156–7; profiles 22, 33, 2008–9, 3155; regeneration 1038; research 1876; structural stability 3158; surveys 26–8, 32, 1897, 2990–1; temperature 10, 1373; termite mounds 2017, 3002; texture 1073, 2027; toxicity 1891, 2344; types 199–200, 319—(gelam) 1891, (karst) 1885, (lateritic) 950, (peat) 1889, 2994–5, (podzols) 33, 943, 1038, 3277, (serpentine) 2344, (solonetz) 17, 318, (tropical) 211, 1088, 1883–4, 2073, 2987–92, 3135, 3155, (volcanic) 2988, 3342; under Shelterbelts 350; water storage capacity 25; *see also* Humus, Litter, Nurseries, Vegetation
Sooty-bark disease 3489–90
'Sour felling' **364**
Sowing *see* Direct sowing, Nurseries
Spacing 309, 311, 1401, 2196–7, 3230, 3265, 3337–8; *see also* Stand density
Spånit p. 516
Specific gravity of wood 176, **730**, **1506**, **2162**, **2658**, **3771**; *see also* Density
Spiders 3517
Spiral growth **1566**, 3062
Splitting **2289**, (hydraulic machine for) **1558**
Splitting guns **3424**
Spoons **3830**
Sports equipment **731**, **3831**
Sprayers 938, 1278, (for helicopters) 3458
Springwood *see* Early wood
Sprouting *see* Coppicing
Squirrels: grey—(biology) 3027, (control) 2421, 3504, (damage) 461–2, 1330, 2422, 3507, (in S. Africa) 49, (trapping) p. 516; red 2420, 3505–6
Stabilizing wood **1644**, **2790**
Stacked wood, measurement 2525
Stain 421, 434, **770–2**, **2822**; effect on— (durability) **2805**, **3876**, (permeability) **3874–5**, (strength) **771–2**, **1647–8**; fungi 511, **772**; physiological **2853**; protection against **770–1**, **1635–6**, **1649**, **2806–7**, **3874**, **3877**
Stand: classification 235; composition 224–33, 2094, 2542, 3627; development 2544, 3259, 3626; structure 2542–3, 3625, (effect on infiltration) 1902
Starch: correlation with borer attack **787**; depletion 3483
State aid and regulation 901–9, 1828–30, 2304, 2943–50, 4032–5; *see also* Geographical Index
Statistical method 7, **641**, **809**, 898, 933–5, 1120–2, 1195, 1403–12, **1480**, 2969–70, 3347
Statistics, forest 893–6, 1813–6, 2932–9, 4022–7
Steaming of wood **1539**, **1683**, **1689**, **2833–4**, **3907**
Stem growth and form 178–9
Storage: logs **2831**, **3921**; lumber p. 376; ponds **3855**; pulpwood **781–2**, **1656–7**, **3933**
Strangulation to promote rooting of cuttings 2180
Stratawood **2796**
Streamflow: effect of temperature on 1903; measurement 1904; *see also* Forest influences
Street trees *see* Ornamental trees
Strength, improved laminated wood **2797–8**
Strength, wood **634–7**, **648–51**, **730–1**, **1508–12**, **2614–7**, **2627–32**, **3702–3**, **3719–32**; building timber **721**; effects of—(decay) **2811–2**, (growth rate) **2657**, (moisture content) **1512**, **2656**, (silvicultural system) **2658**, (stain) **771–2**, (steaming) **2834**; heartwood and sapwood **2617**; limit of plastic flow **3722–3**; mine timbers **699**; plantation-grown wood **1501**; resinous wood **2629**; testing **648–51**, **814**, **1510–2**, **2627**, **3720**, **3722–3**, **3727–8**
Strip-mined land *see* Afforestation
Strip surveys *see* Enumeration surveys
Stumpage, calculation of **2573**
Stumped plants *see* Planting stock (stumps)
Stumps: breeding ground for insects 503; removal **1240**, 1866, **2288–90**; *see also* Dead wood
Stumpwood: splitting **2289**; utilization **3953–4**
Succession 188–92, 1057–8, 2042, 2059, 2086, 2097–8, 2503, 3180, 3199, 3215–6; influence of—(animals) 50, (disease) 2043, 3484, *see also* Fire
Succulents, use for erosion control 1293
Sugar, Maple 64, 3408
Sulky **1260**
Summerwood *see* Early and late wood
Sunscald 2342, p. 124
Suppression, biological effects 3189
Surveying 3595
Surveys: aerial 557–61; 1434–7, 2545–8 3630–7; cameras 558; estimating height and volume of stands 1437; identification of species 1437; interpretation of photographs 558–60, 3595, 3628, 3631–5, (apparatus for) 2546, 3636, (checking by aerial reconnaissance) 2547; season and time of day 557
Surveys, forest 3595, 3630–1, 3634; manual of 3628–9; sampling 3634
Sustained yield *see* Yield regulation
Swamps: germination of seed in 172; management of forests 218; reproduction on 2088; vegetation 213, 2080
Swelling of wood *see* Shrinkage and swelling
Symbiosis of insects with fungi 511

TANNINS: adhesives from **863**, **1748**, **3793**; extraction **3968**; rôle in—(disease resistance) 2403, (heartwood formation) **1498**
Tanstuffs **862–4**, **1742–8**, **2889–92**, **3968–76**; bark—(Eucalypt) **863–4**, **2892**, (Karada) **1743**, (Mangrove) **2893**, (Oak) **3975**, (Pine) **2892**, (Spruce) **862**, (Wattle) **855**, **864**, 1199, 1223, **1744–6**, **3974**, (waste) **1607–11**, **1747**; cones **1742**; extraction of residues **856**; galls **2891**; myrobalans **855**; sawmill waste **1727**; valonia **3976**; waste liquors **1728**; wood **2890**
Taper: tables 2513; *see also* Form, stem
Tar, wood **593**, **860**, **1729**, **1732**
Taungya 1114, 2131, 3248
Taxation, forest 923–4, 1457, 1850–1, 2956, 4044; *see also* Valuation
Taxonomy and hybridization 89
Tea, growth under forest canopy 3410
Temperature: along forest roads 940; correlation with transpiration 66–7; ecological value of accumulated temperature 3147–9; effects on—(seed germination) 3177, (seed ripening) 3177, (wood formation) 1055; gradients in Beech forest 10; *see also* Forest influences, Frost, Winter injury
Tension wood **664**, **811**, **2612–3**, **2850–1**
Tent caterpillars 491–2, 3540–1
Terminology, forestry 6, 1864; *see also* Glossaries
Termites: bibliography 43; biology 2825; control by soil poisoning **1673–4**; damage to roots and acorns 2444; detection by microphone **1672**; digestion of wood by **1524**; in Germany **3904**; mounds 2017, 3002; resistant species 793, 2832; survival in girdled trees 1345; *see also* Preservation, wood
Thermal properties of wood **638–40**, **742**, **2162**, **2619**, **3706–8**
Thinning(s) 238, 327–34, 1201–5, 2224–31, 3251, 3357–75; by poisoning 3375; economics of 362, 573, 1453–4, 2554, 3372, 3414, 3647; effect on stand structure 331–2, 2543, 3360; frequency 3359; ill effects 1161; mechanical 2102, 3361; method of field investigation 935; of dense young regeneration 1200, 2101–2, 3357–8; utilization 1201, 1564–5; yields 3366–8, (calculation) 1201
Tidal forest, regeneration 240
Ties *see* Sleepers
Timber measurement: log rules 1417; logs 540, 1416, 2524, 3585, 3587, 3600–2, (curved surface of) 2527; stacked wood 2525
Timber trade 1449, **1473**, **2571–3**, 3654; statistics **582–93**, **1467–72**; **2564–70**; **3656–64**
'Timber Wolf' 937
Timberlines 155
Timberyards: equipment **807–8**, 936–8, **1687**, **2575**, **2716**, **2724**, **3922**
Time studies *see* Work studies
Tool handles **730**
Topography: effect of small differences 2029; effect on vegetation types 203; guide to afforestation 1822
Torrent-training **390**, 959–62, **1179**, 1898, 3012
Toxicity *see* Soil
Trace elements 310, 1037; application 309
Tractors 385, 937, **1261–3**, 1865, **2313–4**, p. 375; adapted for nursery use 1148; electric **2312**; fitted with large wheels **2311**
Trailers 8, 937–8, **1259**, 2971
Translocation 410, 1387, 3033
Transpiration 956, 985, 1927–8; effect on—(streamflow) 1903, (waterlogging) 3006; factors affecting 1900, 2250; measurement 36, 66–7, 1927; treatment of planting stock to prevent 1292, 2193, 3334; *see also* 'Sour felling'
Transplanting *see* Nurseries and nursery practice
Transport, logs and timber **378–88**, **1243–71**, **2301–34**, **3428–51**; economics of **2571**, **2574–5**, **3453**, **3666–7**; manuals of **378**, **1243**; *see also* Floating, Hauling, Logging, Skidding, Sledges, Tractors etc.
Tree classes 2095, 2542–3
'Tree stick' 532
Trencher 8
Tropical hardwoods: exploitation **1474–5**; properties and uses **602**, **634**; sawmilling **2633**; structural timbers **719–22**, **3817–8**; use for veneer and plywood **2725**
Tropical forests: classification of vegetation types 209–11; composition 3627; enumeration surveys 538–9, 1409–11; exploitation **598**; natural regeneration 1104; reproduction in 3241; selection system 3236; *see also* Rain forest
Trucks *see* Lorries
Tsetse control 1302, 2361
Turpentines **1726**, **1770–1**, **1774**, **2909**
Turpentining *see* Resin-tapping

ULTRASONIC treatment of wood **1646**, **3844**
Underplanting 346, 1191, 3239, (for weed suppression) 3469; *see also* Enrichment of tropical forest
Understorey, treatment of 1191

VALUATION, forest 1455–8, 2555–6, 3652
Vanillin **1524**, **2641–2**
Varietal trials 1122, 3276
Vegetation types 198–214, 1060–88, 2047–81, 3199–221; as site indicators 2993–6, 3135; effect of—(climate) 1871, 1874, 3147, (soil pH) 1079, (topography) 203; nomenclature and classification 209–10; *see also* Geographical Index
Vegetative propagation *see* Propagation, vegetative
Veneer: checking **2852**; containers **728**; drying **710**, **1580**, **2728**, **3812**; flooring **2741**; from—(tapped trees) **2267**, (tension wood) **2851**; grading of logs **1690**; lathes **708–9**, **2727**; moisture determination **1505**; preparation of logs **1579**, **1585**, **2726**; reeling **709**, **1579**; species suitable for **707**, **1578**, **2725**, **3733**, **3810–1**, (testing) **1577**; splicing **2729**; surface finishing **1689**
Vermiculite, use in germination 2155
Villages, forest 2959, p. 123
Virgin forest 1099, 2096, (reproduction in) 3241
Virus diseases 61; of insects 497, 591, 2435, 3568; of trees 1327–8, 2416–8; vectors 2430
Vitamins and respiration 3034
Volcanic soils 2988, 3342
Volume determination: by—(average diameter) 3590, (graphic methods) 1399, 2518, 3587, (rules of thumb) 3584, (slide-rule) 914, ('Tree stick') 532; causes of error 2514, 3583; from stumps 3584; standard 3584; tables 259, 533–7, 1400–1, 2513, 2515–7, 2519, 3140–1, 3588–9; *see also* Increment, Assortments

WAGES 925–6, 1852; increase due to deer damage 1336; piecework **1237–9**, **1298–2300**, 2357, **3423**, (advantages of) **3427**
Wallboard *see* Fibreboard
Waste liquors (chemical wood industries) **1712**, **3943**
Waste wood: amount **370**, **1606–12**, **2754**; handling 740–1; **3835**; utilization—(boiler and domestic fuel) **742–6**, **1613–6**, **3834**, **3838–9**, (briquetting) **743**, **1617–8**, 3836–7, (compost) 2758–9, (hydrolysis) **854**, **1608–9**, **2753**, **2758**, (litter and mulching) **1619–20**, (tannin extraction) **3841**, (wood concrete) 3842; *see also* Chipboard, Chippers, Fibreboard, Lignin, Logging, Pulp, Sawdust
Water: consumption by living trees 159, 985, 1927, 2031; effect of pure Spruce on quality 224; *see also* Forest influences, Hydrology
Watering 2026–7; *see also* Nurseries
Waterlogging 260, 2393, 3006
Waterproofing of wood **1645**, **2795**, **2868**
Watershed *see* Catchment
Waterways, temporary dam on **2336**
Waxes 1230
Web-blight 2378
Weedkillers 2176; accidental damage by 405, 414; allyl alcohol 288–9, 1153–4; ammate 339, 2371; application—(basal spray) 406–8, (cut stumps) 406, 412, 2364, (droplet size) 409, (foliage spray) 406, 410, 413, 2364, (season) 406–7; Borascu 405; CIPC 405; CMU 405–6; Crag Herbicide 292–3; EH_2 293; Esterone *see*

growth substances; ferbam 289; Fernoxone 1305; growth substances (2,4-D and 2,4,5-T) 405–14, 1300–1, 2361–8, 3470, (effect on abscission processes) 2361; harmful effects on animals 411, 2371–3; 'hormones' *see* growth substances; MCP 406, 1300; mineral oils 287, 292, 294, 1304, 3313; phenoxyacetic acids 406, 1300, 1302, 2361; TCA 405; translocation 410; Tributon *see* growth substances; Weedone *see* growth substances; *see also* Nurseries, Poisoning
Weed trees and shrubs, chemical control 406–14, 1300–3, 2361–70, 3470; assessment 1302; costs 1301, 2366, 3470; from the air 409, 1301–2, 2364; *see also* Poisoning
Weeding *see* Nurseries
Weeds: control—(biological) 1305, 3469, (by grazing) 2177, 2360, (chemical) *see* Weedkillers, (mechanical) 1304–5
Weevils 502–8, 2479–82, 3555–8
Wheelbarrows **1243**, **1246**
Wild boar: control of insects by 2497; fencing against 2429
Wildlife management 52–3, 56, 1920–1
Wilt: Albizzia 2400; Oak 70–1, 1318–20, 2396–9, 3076–7
Winches 936, 938, 1866, **2305–7**, (electric) **1252**, **1257–8**, **1265–6**, **2308**, **3437**
Wind: effects on—(illumination in the forest) 11, (stem form) 178–9; velocity 13; *see also* Shelterbelts
Wind damage 1325, 1379–80, 2338; compression failure in living trees 1279; decay of wind-thrown timber 1280; defoliation 2410; prevention 237, 391
Windbreaks *see* Shelterbelts
Winter injury: relation of desiccation to 2006, 3150; to roots 393; *see also* Frost
'Winkelzahl' *see* Basal area
Witches' broom *see* Brooming
Wolves 1337
Wood anatomy **614–33**, **1491–1501**, **2596–613**, **3680–701**; abnormalities **627**, **631**, **647**, **664**, **2262**, **2611–3**, **2849–51**; and phylogeny **618**, **620–1**, **2604**; and taxonomy **3683**; bordered pits **3686–7**; cambial cells **631**, **3697**; cell wall **623–4**, **835**, **1494**, **2605**, **3694–7**, (distribution of lignin in) **2607**; crystals **2602**; description **3682**; diffuse-porous woods **2608**; diseased trees 3490; fibres—(dimensions) **630**, **835**, **1495**, **2605**, **2609**, (refractive indexes) **626**; heartwood formation **1497–9**, **3699**; methods of study—(chemical analysis) **2613**, (Cl absorption) **2607**, (electron microscope) **1494**, **2611**, **3695**, (fluorescence microscopy) **3696**, (microscopic polarized light) **2606**, (X-rays) **624–5**, **2612**; oil cells **2917**; rays **619**, **2610**, **3686**, **3691**, **3693**, **3698**; ring-porous woods **2602**, **2608**; storeyed structure **1496**; tracheids—(differentiation) **625**, (length) **628–9**, **631**; vessel dimensions **2608**, **3693**; *see also* Rings, growth
Wood chemistry **600**, **653–70**, **1514–37**, **2634–54**, **3735–68**; cell-wall **1526–7**; heartwood **669–70**, **1532–6**, **3764–5**; variation with position in tree **1514**; *see also* Cellulose, Lignin, Resin, Tannins etc.
Wood extractives **669–70**, **1531–2**, **2646–8**, **3756**, **3764–7**; chromatography **3756–7**; production from living trees 3403; relation to durability **669**; utilization **855–6**, **1726–8**, **2882**, **3953–4**
Wood flour **1605**
Wood identification: drawings **614**, **1491**, **2599**, **3684**; physico-chemical methods **2597**; photomicrographs **616–7**, **622**, **1492–3**, **2600–1**, **3685**; punched cards **616**, **2596**; sections, preparation of **3680–1**; tabular keys **615**
Wood, properties of **600–70**, **1480–1541**, **2583–2660**, **3671–3771**; application of statistical method to study of **601**, **1480**; terminology **3702**; textbook **600**; *see also* Durability, Electrical and Thermal properties, Moisture, Specific gravity, Strength, Working qualities etc., and Species Index
Wood wasps **791–2**
Woodworking: costing **3668**; machinery and tools **652**, **671**, **677–81**, **937–8**, **1542–4**, **1547–9**, **2661**, **2676–7**, **3772–4**; *see also* Saws, Sawmills
Work studies: accidents **2297**; draining **389**; fuelwood conversion **1242**; girdling and poisoning 337, 1206, 3377, 3384; hand felling **2296**, **3414**; lifting timber from water **3441**; loading barges **3451**; logging **372–7**, **1239**, **2298–2300**, **3415–21**; sawmill **1547**, **1574–6**, **2718–21**, **3809**; silvicultural work **1237–9**, **3427**; technique of **2291–5**, **3426**; training for p. 516; transport **1239**
Working plans 566–8, 1443–4, 3224, 3641
Working qualities of wood **652**, **1513**, **2633**, **3733–4**
Worms 1896, 2982
Wound dressings for trees 1213, 2401, 3486
Wound healing 3040
Wrenching *see* Nurseries and Nursery practice
Wyssen cableway pp. 7–8

X-RAYS: for diagnosis of decay 430, **776**; in study of preservatives **3853**; in wood-anatomy studies **624–5**

YEAST grown on wood hydrolysates **854**
Yield 575, 2542; regulation 222, 565, 1440–22, 1445, 1448–51, 2551–3, 3621, 3640–2; tables 556, 2566, 3371, 3614, 3621–4

GEOGRAPHICAL INDEX

ABYSSINIA: climate and forestry 891
Afghanistan: forests and forestry 1808
Africa: land tenure 4032; scientific conferences 927, 4047
Alaska: classification of climax forests 235; vegetation types 2079
Algeria: forestry handbook 1857; forests and wood industries **1479**, 2928
Andamans: forests and forestry 1809
Angola: exotics 1129
Argentina: climate and land use 1823; exotics 1131; forest valuation 1457; species grown in Patagonia 3254; timbers **2604**, **2615**, vegetation types 1085
Australia: forest policy 1803; forest products research **3670**; forest statistics 1813; map of forest regions 1087; nursery practice 281, 3298; scientific journals 2966; state forests 1824; timber statistics **1472**, **2569**, **3660**; utilization of wood waste 1611
Austria: forest types 202; forestry associations 1849; insect pests 1339; maps 2968, 2977; research **1476**, 1841, p. 123; vegetation and climate 154
Azores: vegetation 2066

BECHUANALAND: checklist 1006; forest statistics 1813
Belgian Congo: exotics 3267; flora 1969; forest exploitation **3412**; forestry research 918; insects 969; logging methods **1231**, **3412**; research bulletin 3; soils 2992; timbers **605**, **1492**; vegetation types 1069, 3209–11; vernacular names of trees 1970
Belgium: exotics 250, 2110–1
Bolivia: forest exploitation p. 374
Brazil: afforestation 3344; identification of trees 3087; timber statistics **3663**; timbers **2603**, **3703**; vegetation map 1082; vegetation types 2060; vernacular names of trees 116
British Columbia: aerial surveys 558–9; forest statistics 4025
British Commonwealth: forest statistics 1813; forests and forestry 1805; forestry conference 4045–6; forest research 913; insect pests 2430
British Guiana: forest statistics 1813; new species from 115, 1009; regeneration of forests 1104; timbers 607; vegetation types 212
British Honduras: forest statistics 1813
Bulgaria: forest distribution maps 2967; shelterbelts p. 374
Burma: forest laws 903; forest products **599**; forest service 1461; silvicultural systems 1102; utilization of timbers **3818**, p. 240

CALIFORNIA: fog belt 1900; forestry research 4043
Cameroun: natural regeneration 1106; timbers **1493**
Canada: federal-provincial forestry agreements 3653; fire control 1287–8; fire losses 2356; forest policy 1800; forest products research **2582**; forest protection 1277; forest statistics 1813–5; forestry education 4038; forestry research 1089, 1844–5, 4042, p. 374; insect pests 1338, 1341; nursery practice 280; rationalization of logging **370**; scientific journals 2965; soils 27; utilization of wood waste **1606**; vegetation types 1070–2, 2077–8, 3215; wood preservation **1625**; yield regulation 1440
Canary Islands: climate and forest types 1899
Ceylon: afforestation pp. 123–4; climatic zones 2976; forest statistics 1813; forest types 3236; forestry education 1838; forestry journal 2963; Soil Conservation Act 2950
China: forest types and erosion 2503; shelterbelts p. 241
Colombia: exotics 2126; forests and forestry 1789–90; timbers **2587**, **3675**
Cyprus: afforestation 2204; forest statistics 1813; forests and forestry 1808, 1819; forestry college 912
Czechoslovakia: forest fires 2351; insect pests 2433; nursery practice 1144–6, 3299; plant ecology 1997; soils 1883; tree breeding 1027

DENMAEK: afforestation 312–3; forest policy 2924; nursery practice 1143; seed production 3279; timber statistics 894, **3662**; tree breeding 1855
Dominica: forest statistics 1813
Dutch Guiana: aerial survey 3631

EAST AFRICA: flora 112–3; forestry research 919, 1843; silvicultural problems 1103
Ecuador: economic botany 1956; erosion control 42, 958; vegetable fibres **2921**; vegetation 3219
England: forest statistics 2932; forests and forestry 4016
Eurasia: forest distribution map 2967
Europe: forest distribution map 2967; timber statistics 3657–9

FIJI: flora 1020, 1983, 1988, 3123; forest statistics 1813
Finland: drainage works **3455**; forest distribution map 2967; forests and forestry 889; forestry research 1842; range of timber species 3143; road and rail system **3453**; timber industry **3667**; timber statistics **2570**; utilization of wood waste **1609**, **2754**
Formosa: flora 109
France: broadleaved species 126; co-operatives 1833–5; exotics 253, 1127; Fonds Forestier National 908–9, 1831–2; forest distribution map 2967; forest history 2922; forest law 2943; forest policy 4015; forest types 200, 3199–3200; land use 4030; silvicultural literature 215; soil maps 947–8; soils 2987; utilization of wood waste **1612**
French Equatorial Africa: climate and vegetation 1874; vegetation types 209
French Guiana: forests and forestry 1810
French West Africa: climate and vegetation 1874; land use 4031; timber industry **1475**; vegetation map 1067; vegetation types 1068, 3207–8

GABON: timber industry **1474**
Germany: afforestation 1187, 3340; climatic regions 1871; dendrological manual 3097; exotics 255, 1124–5, 2114–8; forest distribution map 2967; forest history 1791–2; forest pests and diseases 1275, 2432; forestry associations 1849; forestry education 1840; forestry research 1841; forests and forestry 4017–8; native and cultivated conifers 3089; production of seed and planting stock 3278; shelterbelts 1217, 2247; silvicultural literature 2082; timber trade **3661**; vegetation types 1060
Gold Coast: forest law 2945; forest statistics 1813; forests and forestry 1788; timber industry **1466**; vegetation types 2075
Great Britain: afforestation 1186, 2199–2200; exotics 252, 1123, 3257; forest distribution map 2967; forest history 881–3; forest policy 1793, 2924; forest protection 1276; forest statistics 1813, 2932; forest villages 2959, p. 123; forestry education 4039; forests and forestry 1806; gale damage p. 241; land use 4029; nursery practice 3297; shelterbelts 3392; timber statistics **2564–5**; timber trade **2560**, **3660**; tree breeding 3048; vegetation types 199, 2057; wood preservation **1622**
Greece: afforestation 1178–9; forest distribution map 2967; forest law 2944; forest service 1460; forest statistics 2933
Greenland: afforestation p. 376
Grenada: forest statistics 1813
Guatemala: flora 1008; forest survey 3630

HAITI: forest administration p. 241
Hawaii: forest types 214
Hong Kong: timbers used in **2585**
Hungary: choice of species 3252; ecological research 1032; forest distribution maps 2967

IRELAND: afforestation p. 241
India: economic botany 1955; exotics 2123; forest laws 905–6; forest management 1455; forest policy 886, 1796–7, 4011–2; forest products research **1478**; forest statistics 896, 1813; forests and forestry 4020; insect pests 1340–1; integration of forest industries **1591–2**; plant diseases 104, 1309, 2377; pulp, materials for **828–30, 1700, 2860–1, 2935**; reclamation of desert 963, 2073, p. 242; silvicultural systems 1100, 1114; timber dryers' association p. 241; timbers **1481**; utilization of wood waste **1610**, vegetation types 3203, 3627; wood preservation **1623–4, 2760**
Indochina: 'ethnobotany' 166; forests and forestry 4021
Indonesia: aerial survey 3632–3, exotics 3263; forest ownership 2940; forest service 2559; forestry journal 1863; tree species 1010, 2246, (vernacular names) 118–9, 1973, 3082
Iraq: forests and forestry 1805
Ireland: exotics 251, 2113; vegetation types 2056
Israel: afforestation 2205; forestry journal 1860; nursery practice 2159–61; timbers **2602**
Italy: dune fixation 314–5; exotics 3258; fire control 396; forest laws 901, 2948–9; forest statistics 893; maps 2967; Poplar-growing 219; soils 2988
Ivory Coast: vegetation types 210

JAMAICA: forest policy 1801
Japan: erosion control 1906; flora 1000–1, 3085–6, 3145–6; forests and forestry 2550, 4019; fungi 1308, 3073, 3473; soils 22, 26, 2990–1; timbers **663**; vegetation types 205, 1065, 2067–71
Java: industrial species 2000; silvicultural technique 1093
Jordan: forests and forestry 1808; map of forest areas 931
Jugoslavia: afforestation 1818, 2202–3, 2245; co-operatives 910; exotics 3259; forest distribution map 2967; forest products **2579**; forest reserves 907; forest taxation 2956; forestry education 4040; forestry research 915, 4041; forests and forestry 2926, 4009; Karst formation 1885; Poplar-growing 1028, 1993; possibility of cork growing 2256; resin tapping 2260–1; seed service 2135; selection management in small units 3237; timber statistics **1467–9, 2566–7**; vegetation types 204, 1063–4, 2061–5, 2923

KENYA: forest statistics 1813

LATIN AMERICA: Bamboos 2269; forestry conference 1854
Lebanon: distribution of forest species 2000; forests and forestry 1808
Libya: afforestation 1185

MACEDONIA: vernacular names 1982
Madagascar: forests and forestry 2930
Malaya: check list 110; exotics 2123–4, 3262; forest statistics 1813; forest types 1092, 3205; timbers **604, 617, 3673**
Mauritius: forest statistics 1813
Mexico: forest statistics 1816; institute of natural resources p. 242; Oaks 1023; vegetation types 1083
Mongolia: flora 999
Morocco, French: choice of species 3253; erosion 41; exotics 1128; forestry handbook 1857; forestry research 917; forests and wood industries **1479**; nurseries and nursery practice 279; vegetation types 3201
Morocco, Spanish: afforestation 1223
Mozambique: timbers **606, 2586**

NEPAL: distribution of gymnosperms 2002
Netherlands: forest policy 2924; insect pests 3510; Poplar growing 1094; relation of forestry to agriculture 2244; research on forest pathology 2376; shelterbelts 1219, 2223; tree breeding 991, p. 242; vegetation 2059
New Brunswick: forest history 4013; forest policy 1800; forests and forestry 1811
New Caledonia: forests 892
New Guinea: forests and forestry 2931; fungi 3074
New South Wales: conservation map 932; fire control 1290; forest types 401, 2081; insect pests 473; soils 28, 32; timbers **612, 1490, 3678**
New Zealand: exotics 1132, 3264–5; fire control 397; forest distribution map 2967; forest statistics 1813; forest education 1839; forestry research 1848; introduced animals 50–1; sawmilling **1568**; timbers **634**
Nicobar: forest types 1968
Nigeria: forest statistics 1813; timber industry 1466; vegetation types and mammals 3022
North Borneo: forest statistics 1813; forestry research p. 125; plant names 117
Northern Ireland: forest policy 1794; forest statistics 1813; seed orchards 2137
Northern Rhodesia: forest statistics 1813; forests and forestry 2929
Norway: exotics 2112; forest distribution map 2967; forest statistics 1827; labour requirements 2959; research **1477**; vegetation types 2996
Nyasaland: exotics 3268–9; forest statistics 1813; vegetation types 3212

ONTARIO: forest law 2946; forestry research 1845; municipal forests 2941–2

PACIFIC ISLANDS: forests and forestry 1812
Pakistan: afforestation 2206; forest policy 1798, 4011; forest statistics 1813; forestry conference 922; forests and forestry 1808; silvicultural systems 1101; vegetation types 3202, 3204
Persia: afforestation 320–1; exotics 257; forest service 4, 577; forest types 1066; forests and forestry 890, 1808, 2927
Peru: forest law 904
Philippines: exotics 3264; forest policy 1803; forest service 578; forestry research p. 125; logging methods **1232**
Poland: forest insects 44; forestry research 914; natural forest regions 1872–3; nursery practice 1147; soils 1876, 1884; timber research **2580**; vegetation types 2058
Portugal: Cork Oak 3400; exotics 2121; timbers **615**; vegetation types 133, 3201
Puerto Rico: exotics 259–61; land use 899

QUEENSLAND: timbers **721**

RÉUNION: vegetation 3213
Rumania: exotics 2122
Ryukyu Islands: aerial survey 3634; tree species 3084

ST. VINCENT: forest statistics 1813
Sarawak: forest law 4034; forest statistics 1813; timbers **3674**; vegetation types 213
Scotland: co-operatives 1836; exotics 2113; forest history 881; forest statistics 2932; timber trade **580, 2561**
Senegal: vegetation types 3206
Siam: exotics 3261; forest types 2072; forestry journal 2964; timbers **3671–2**
Sierra Leone: forest reserves 4033; forest statistics 1813
South Africa, Union of: exotics 1130, 2126; flora 1004–5; grey squirrels 49; 'tree-farming' 1199; vegetation types 2076, 3241; wood-destroying insects 1662
South Australia: fauna of exotic Pine plantations 3026; flora 1974; soils 1088; vegetation types 1088
Southern Rhodesia: exotics 258; forest statistics 1813; soil map 949; vegetation and climate 2017; woody flora 114, 1007, 1971, 3080–1
Spain: afforestation 316, 1177; Cork Oak forests 356; exotics 2119–20; forest fire insurance

4036; forest law 902; forest policy 1795; forest service 1459; forests and forestry 1807; land use 2989, 4028; private forestry 1830; pulp and paper industry, materials for 2858; vegetation types 201, 1061–2
Sudan: flora 1002; forest statistics 1813; timber statistics **2568**; vegetation types 2074
Swaziland: forest statistics 1813
Sweden: aerial surveys 1435; forest distribution map 2967; forest history 884; forest management 1444; forest statistics 2933, 4023; timber statistics **585–93**, **2562–3**; tree breeding 81; wages 925–6, 1852; wood preservation **1629**
Switzerland: forest statistics 895, 1826, 4024; forestry associations and research 1841; vegetation types 939
Syria: forests and forestry 1808

TANGANYIKA: forest policy 1799, 2924; forest statistics 1813; forest types 1090; planting technique 3251; sawmilling **1570**
Trinidad: forest statistics 1813; forest types 1084; natural regeneration 1105
Tropical East Africa 112–3
Tunisia: forestry handbook 1857; forests and wood industries **1479**, 2927
Turkey: afforestation 3343; forest distribution map 2967; forest history 4010; forestry research 916; forests and forestry 880, 1787, 1808

UBANGI-SHARI: flora 111
Uganda: dedication scheme 568, 907; indigenous trees 1003; forest statistics 1813; timber cess fund **3655**
Uruguay: forest statistics 2939; forestry journal 1861
U.S.A. aerial survey 1436; bibliography of tree identification 1972; distribution of important species 3144; fire control 1289; fire losses 2357; forest ownership 900, 1825; forest policy 887, 1802, 4014; forest products research **2581**, p. 376; forest protection 1277; forest service 1462–3; forest statistics 2935–8, 4026–7; forest taxation 923–4, 1850–1, 4044; forestry education 4038; forestry research 920–1, 1846–7, 4043, p. 516; hardboard industry **2871**; insect pests 472, 2431; logging methods **597**, **1233**; production of seed and planting stock 3278; protection forestry 1820; road building programme 1465; sawmills **597**; shelterbelts 3395; timber statistics **582–4**, **1470–1**; tree breeding 82, 3050–3; utilization of wood waste **1607**; vegetation types 206–8, 1073–81, 3216–8, 3225–6; wood preservation **1626**
U.S.S.R.: exotics 1126; forest types 203; tree breeding 3049

VENEZUELA: afforestation 323; flora 3088; forest administration 1464; forest fires 3462; forest protection 1821; forestry education p. 243; vegetation types 1086
Victoria: fire control 1291

WALES: forest statistics 2932, 4022
West tropical Africa: flora 3098
Western Australia: forest policy 888; tree species **611**, 1022, 1989–90, 3117

ZANZIBAR: afforestation 1190

PRINTED BY
W. HEFFER & SONS LTD.,
CAMBRIDGE ENGLAND